MZ-RH1

SERVICE MANUAL

US Model
Canadian Model
AEP Model

Ver. 1.1 2006.05



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Model Name Using Similar Mechanism	NEW
MD Mechanism Type	MT-MZRH1-181
Optical Pick-up Name	ABX-U2

SPECIFICATIONS

Audio playing system
MiniDisc digital audio system

Systems
MiniDisc system, Hi-MD system

Laser diode properties
Emission duration: continuous
Laser output: less than 44.6 μW
(This output is the value measured at a distance of 200 mm from the lens surface on the optical pick-up block with 7 mm aperture.)

– Continued on next page –

PORTABLE MD RECORDER

9-887-182-02
2006E05-1
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Sony Corporation
Personal Audio Division
Published by Sony Techno Create Corporation

SONY

Recording and playback time

List of the recording time for each disc (Approx.)

The recording time is varied depending on disc type, disc mode, codec, and bit rate.

When using a disc in Hi-MD mode

When recording on the recorder		Recording time[1]			
Codec/ Bit rate	Recording mode on the recorder	1GB Hi-MD disc	80-minute standard disc	74-minute standard disc	60-minute standard disc
LinearPCM/ 1.4 Mbps	PCM	1 hour and 34 minutes	28 minutes	26 minutes	21 minutes
ATRAC					
ATRAC3plus/ 256 kbps	Hi-SP	7 hours and 55 minutes	2 hours and 20 minutes	2 hours and 10 minutes	1 hour and 40 minutes
ATRAC3plus/ 64 kbps	Hi-LP	34 hours	10 hours and 10 minutes	9 hours and 20 minutes	7 hours and 40 minutes

When transferring from the computer	Recording time[1]			
Codec/Bit rate	1GB Hi-MD disc	80-minute standard disc	74-minute standard disc	60-minute standard disc
LinearPCM/1.4 Mbps	1 hour and 34 minutes	28 minutes	26 minutes	21 minutes
ATRAC				
ATRAC3plus/352 kbps	5 hours and 30 minutes	1 hour and 35 minutes	1 hour and 30 minutes	1 hour and 10 minutes
ATRAC3plus/256 kbps	7 hours and 55 minutes	2 hours and 20 minutes	2 hours and 10 minutes	1 hour and 40 minutes
ATRAC3plus/192 kbps	11 hours	3 hours and 10 minutes	3 hours	2 hours and 20 minutes
ATRAC3plus/64 kbps	34 hours	10 hours and 10 minutes	9 hours and 20 minutes	7 hours and 40 minutes
ATRAC3plus/48 kbps	45 hours	13 hours and 30 minutes	12 hours and 30 minutes	10 hours
ATRAC3/132 kbps	16 hours and 30 minutes	4 hours and 50 minutes	4 hours and 30 minutes	3 hours and 40 minutes
ATRAC3/105 kbps	20 hours and 40 minutes	6 hours and 10 minutes	5 hours and 40 minutes	4 hours and 40 minutes
ATRAC3/66 kbps	32 hours and 40 minutes	9 hours and 50 minutes	9 hours	7 hours and 20 minutes
MP3[2]/128 kbps	17 hours	5 hours	4 hours and 30 minutes	3 hours and 30 minutes

1) When transferring 4-minute tracks

2) MP3 file formats are as follows: MPEG-1 Audio Layer-3/sampling frequency 44.1 kHz/fixed bit rate.

Revolutions

Approx. 350 rpm to 3,600 rpm (CLV)

Error correction

Hi-MD: LDC (Long Distance Code)/BIS (Burst Indicator Subcode)
MD: ACIRC (Advanced Cross Interleave Reed Solomon Code)

Sampling frequency

44.1 kHz

Sampling rate converter

Optical (digital) input: 32 kHz/44.1 kHz/48 kHz

Audio formats supported by this recorder

Recording:
LinearPCM (44.1 kHz/16 bit)
ATRAC3plus (Hi-SP, Hi-LP)
ATRAC3 (LP2, LP4)
ATRAC (SP)
Playback:
LinearPCM
ATRAC3plus
ATRAC3
ATRAC
MP3 (for playback only) (MPEG-1 Audio Layer-3, sampling frequency 32/44.1/48 kHz, bit rate 32-320 kbps (fixed/variable bit rate))
ATRAC stands for **Adaptive TRansform Acoustic Coding**.

Modulation system

Hi-MD: 1-7RLL (Run Length Limited)/PRML (Partial Response Maximum Likelihood)
MD: EFM (Eight to Fourteen Modulation)

Frequency response (During digital and analog input)

20 to 20,000 Hz ±3 dB

Input connectors*

MIC (PLUG IN POWER): stereo mini-jack (minimum input level 0.13 mV)
LINE IN (OPT): stereo mini-jack for analog input (minimum input level 49 mV)/optical (digital) mini-jack for optical (digital) input

Output connector

🎧/LINE OUT: stereo mini-jack (dedicated remote jack) / regulated output 194 mV (10 kΩ)

Maximum output (DC)

Headphones:
4.5 mW + 4.5 mW (16 Ω) (European model)
5 mW + 5 mW (16 Ω) (Other models)

Power requirements

Sony AC Power Adaptor DC 5 V AC 100 V - 240 V, 50/60 Hz
Lithium-ion rechargeable battery
LIP-4WM, 3.7 V, 370 mAh, Li-ion

Operating temperature

+5 °C (+41 °F) to +35 °C (+95 °F)

Battery operation time**

Battery life[1]

This value varies depending on how the recorder is used.

When recording/playing continuously in Hi-MD mode (Unit: approx. hours)

When	Disc type	LinearPCM	Hi-SP	Hi-LP	MP3[2]
Recording	1GB Hi-MD disc	6	9	10.5	—[3]
	60/74/80-minute standard disc	5	9	10.5	—[3]
Playing	1GB Hi-MD disc	10	15.5	19	16.5
	60/74/80-minute standard disc	8	14.5	18.5	16

When recording/playing continuously in MD mode (Unit: approx. hours)

When	Disc type	SP	LP2	LP4
Recording	60/74/80-minute standard disc	8.5	10.5	12
Playing	60/74/80-minute standard disc	15.5	17.5	19

Measured in accordance with the JEITA (Japan Electronics and Information Technology Industries Association) standard.

1) Measured using a fully charged lithium-ion rechargeable battery with "EL Light" in the menu set to "Auto Off"

2) When transferring at 128 kbps

3) The recorder cannot record in MP3 mode. Transfer MP3 audio data using the supplied SonicStage software

Note

Repeated recharging causes the capacity of the rechargeable battery to decrease over time. As a result, the battery life will become shorter as the battery is used. Please replace the battery when the battery life reaches about half the time listed above.

Dimensions

Approx. 83.8 × 84.4 × 14.7 mm (w/h/d)
($3\frac{3}{8} \times 3\frac{3}{8} \times \frac{19}{32}$ in.) (excluding projecting parts and controls)

Mass

Approx. 96 g (3.4 oz.) (the recorder only)
Approx. 106 g (3.8 oz.) (including the rechargeable battery)

* The LINE IN (OPT) jack is used to connect either a digital (optical) cable or a line (analog) cable.

** Measured in accordance with JEITA.

Supplied accessories

- AC power adaptor (100 V - 240 V)
- AC power cord[1]
- USB cable
- Remote control[2]
- Earphones
- LIP-4WM Lithium-ion rechargeable battery
- Rechargeable battery case
- Optical cable (for the European model)
- Carrying pouch
- Ferrite core (small size)
  - Three for the European model
  - Two for the North American model
- 1GB Hi-MD disc (except for the European model)
- CD-ROM[3]
  (Windows: SonicStage/MD Simple Burner, Macintosh: Hi-MD Music Transfer for Mac)
- Operating Instructions (this manual)
- Operating Instructions (Hi-MD Music Transfer for Mac)

1) The shape of the plug differs according to the region where the recorder was purchased. Two cords with differently shaped plugs are supplied with the models for Europe, Asia and Chile. Use the one that corresponds with the outlet configuration in the region where it is used.

2) For the North American and Latin American models, remote with a ferrite core is supplied.

3) Do not play a CD-ROM on an audio CD player. For details on "Hi-MD Music Transfer for Mac", refer to the instruction sheet supplied with this recorder.

Design and specifications are subject to change without notice.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COM- POSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350 °C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscou-s (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

NOTES ON REPLACEMENT OF CSP (CHIP SIZE PACKAGE) IC

Replacement of IC401, IC501, IC601 and IC701 on the MAIN board used in this set requires a special tool.

NOTES ON REPLACEMENT OF IC801 ON THE MAIN BOARD

IC801 on the MAIN board can not be exchanged alone. When IC801 on the MAIN board is damaged, exchange the complete MAIN board.

NOTES ON REPLACEMENT OF IC1 AND S8 ON THE OLED BOARD

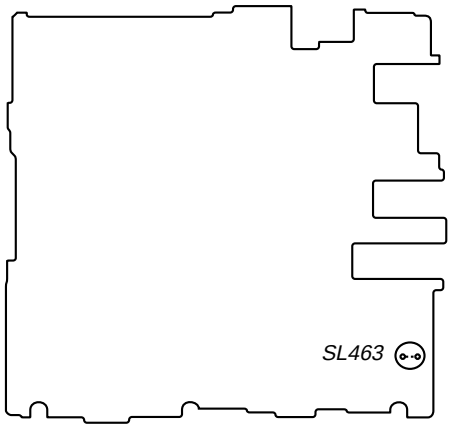
IC1 and S8 on the OLED board can not be exchanged alone. When IC1 and S8 on the OLED board are damaged, exchange the complete OLED board.

OPERATION CHECK WHEN THE MAIN BOARD IS REMOVED

In making an operation check with the MAIN board removed from the set, short the SL463 of the MAIN board with the solder before starting the operation check.

Note: Be sure to remove the solder used for shortcircuit after the repaire completed.

– MAIN Board (Conductor Side) –



System requirements

The following system environment is required in order to use the SonicStage/MD Simple Burner software.

Computer	IBM PC/AT or Compatible	
	• CPU: Pentium III 450 MHz or higher • Hard disk drive space: 200 MB or more (1.5 GB or more is recommended) (The amount space will vary according to Windows version and the number of music files stored on the hard disk.) • RAM: 128 MB or more	
	Others	• CD drive (capable of digital playback by WDM) (A CD-R/RW drive is necessary for CD writing) • Sound Board • USB port
Operating System	Factory installed: Windows XP Media Center Edition 2005/Windows XP Media Center Edition 2004/Windows XP Media Center Edition/Windows XP Professional/Windows XP Home Edition/Windows 2000 Professional (Service Pack 3 or later)/ Windows Millennium Edition/Windows 98 Second Edition	
Display	High Color (16 bit) or higher, 800 better is recommended)	
Others	• Internet access for online registration and CDDB use • Internet access and Microsoft Internet Explorer (version 5.5 or higher) for use of EMD services • Windows Media Player (version 7.0 or higher) installed for playing WMA files	

This software is not supported by operating systems other than those listed above, custom-built PCs, operating systems that are upgrades from the original manufacturer-installed system, multi-boot environments, multi-monitor environments, or Macintosh computers.

Notes

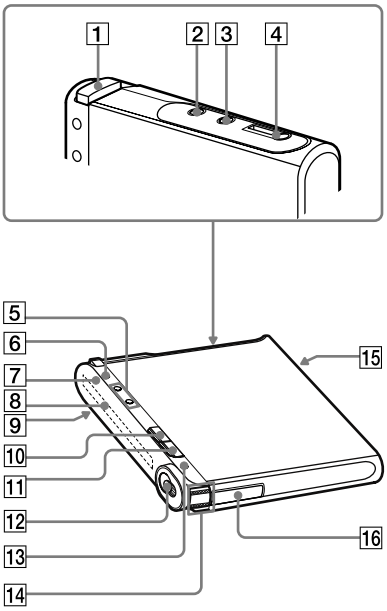
- We do not ensure trouble-free operation on all computers that satisfy the system requirements.
- The NTFS format of Windows XP/Windows 2000 Professional can be used only with the standard (factory) settings.
- We do not ensure trouble-free operation of the system suspend, sleep, or hibernation function on all computers.

SECTION 2
GENERAL

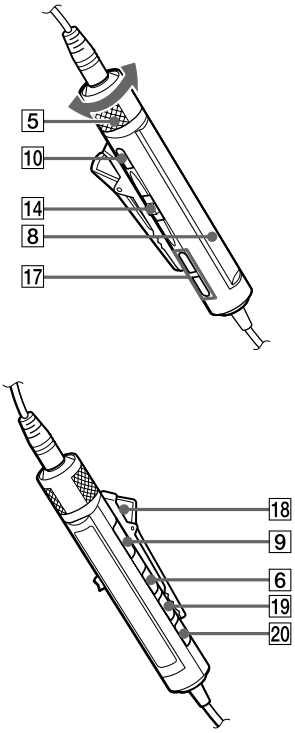
This section is extracted from instruction manual.

Guide to Parts and Controls

Recorder



Remote



1 OPEN button

2 LINE IN (OPT) jack

3 MIC (PLUG IN POWER)* jack

4 ∩ (earphones)/LINE OUT jack

5 Recorder: VOL +*/– buttons
Remote: VOL +/– control

6 Recorder: • DISPLAY/ ⬬ MENU button
Remote: DISPLAY button

7 Operation lamp

8 Display window

9 HOLD switch

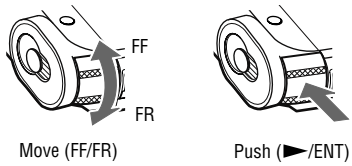
10 Recorder: ■ (stop) · CANCEL button
Remote: ■ (stop) button

11 ❚❚ (pause) button

12 REC switch

13 T MARK button

14 Recorder: Jog lever (► (play)/ENT*, FF (AMS, fast forward), FR (AMS, fast rewind))



Remote: Jog lever (►❚❚ (play, pause)/ ENT, ⏮ (AMS, fast rewind), ⏭ (AMS, fast forward))

15 USB cable connecting jack

16 Battery compartment

17 🗀 (group) +/– button

18 Clip

19 P MODE/↻ (repeat) button

20 SOUND button

* There is a tactile dot.

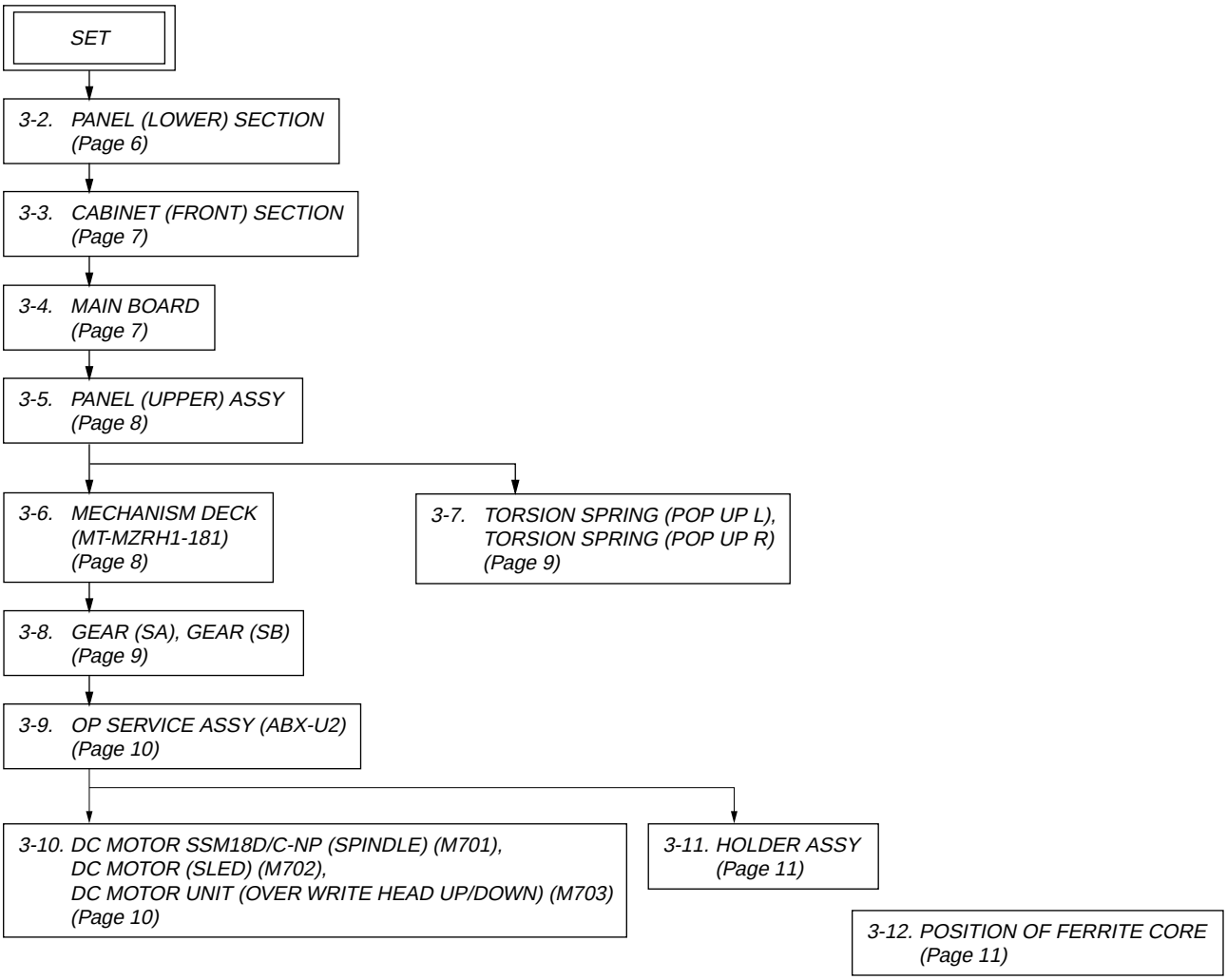
Locking the controls (HOLD)

Slide the HOLD switch 9 on the recorder or on the remote in the direction of the arrow. You can prevent accidental button presses while carrying the recorder by locking the controls. You can use the HOLD function for the recorder and the remote separately. For example, even if the HOLD function on the recorder is activated, you can operate the recorder by using the remote unless you set HOLD on the remote to on, too.

SECTION 3
DISASSEMBLY

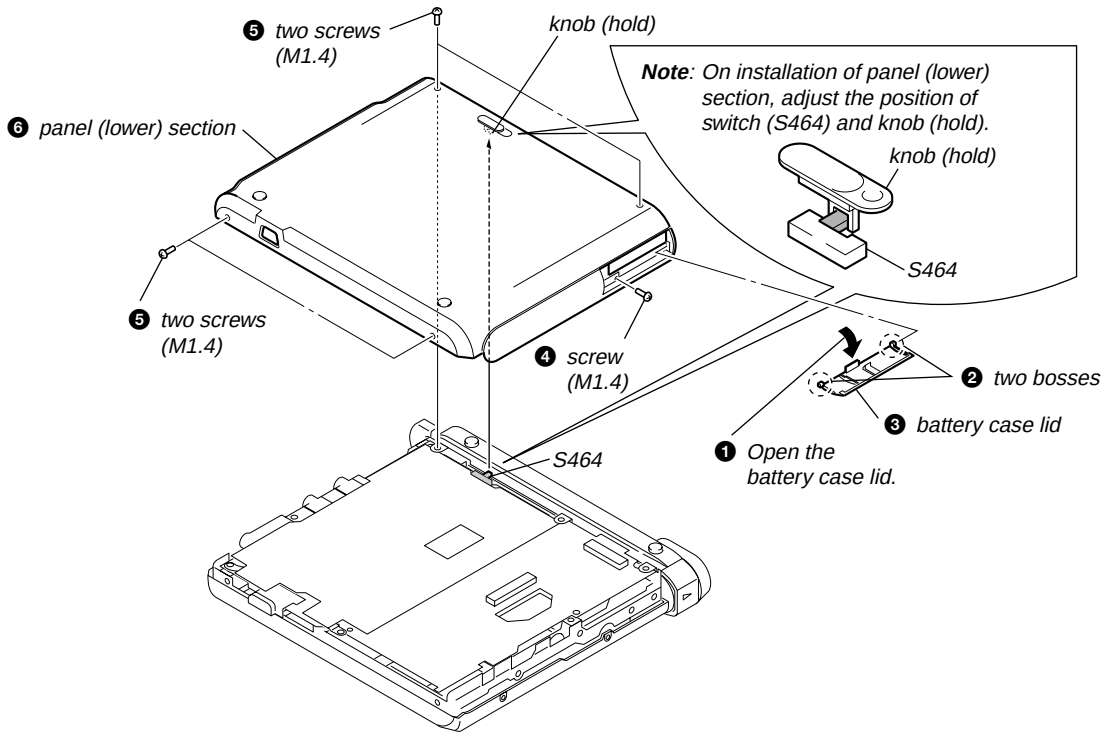
- This set can be disassembled in the order shown below.

3-1. DISASSEMBLY FLOW

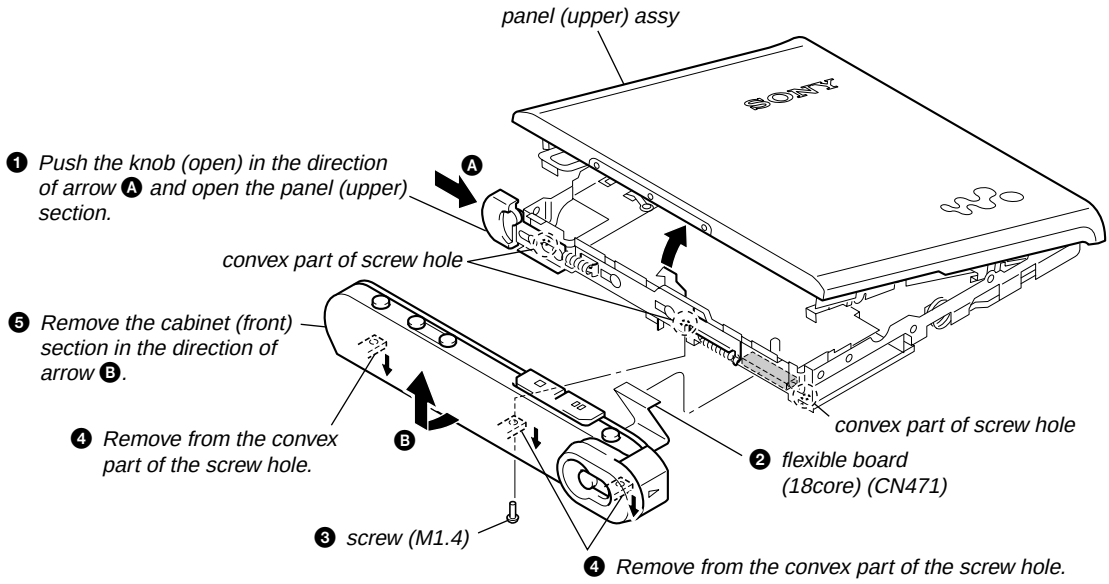


Note: Follow the disassembly procedure in the numerical order given.

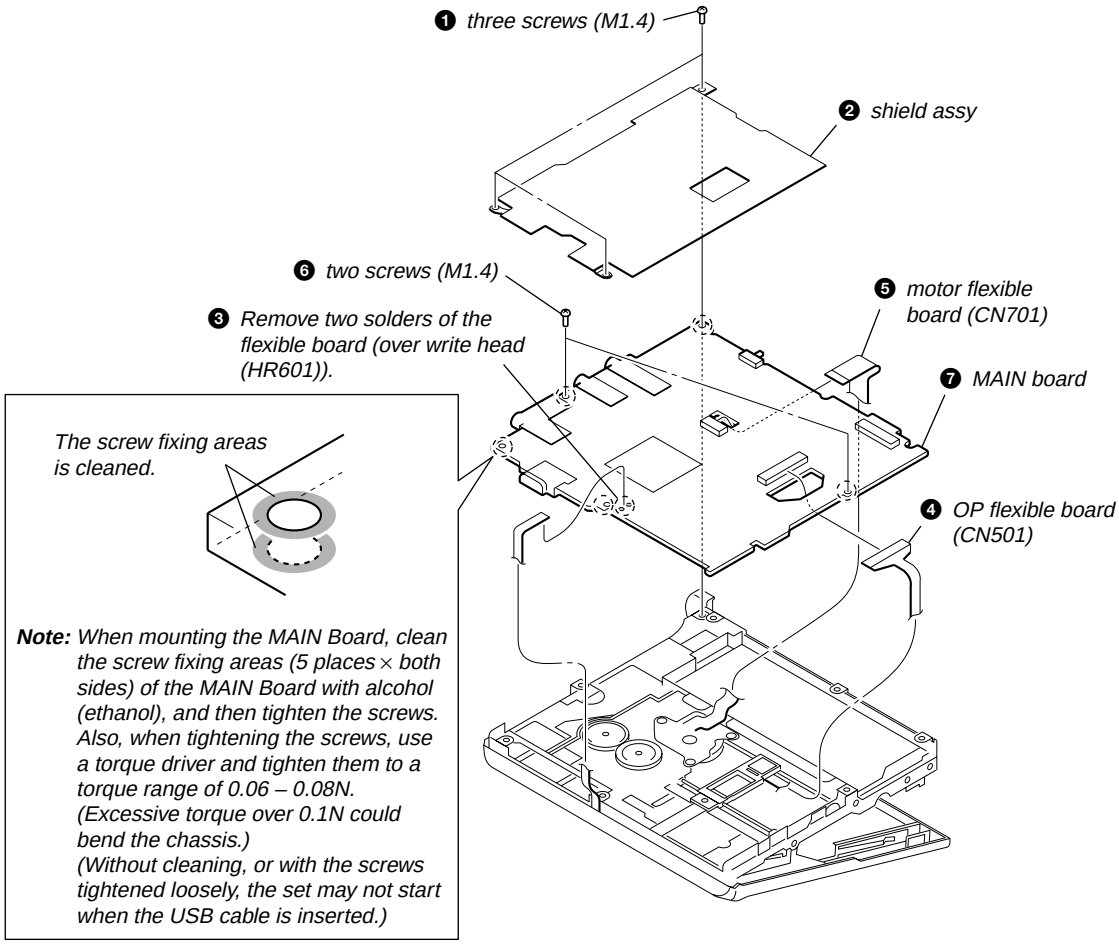
3-2. PANEL (LOWER) SECTION



3-3. CABINET (FRONT) SECTION

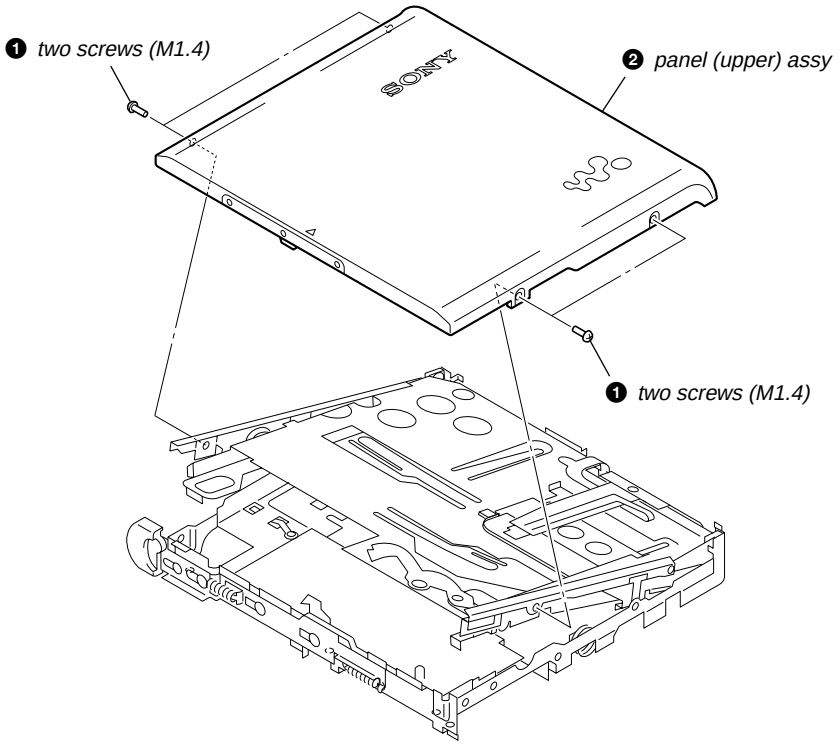


3-4. MAIN BOARD

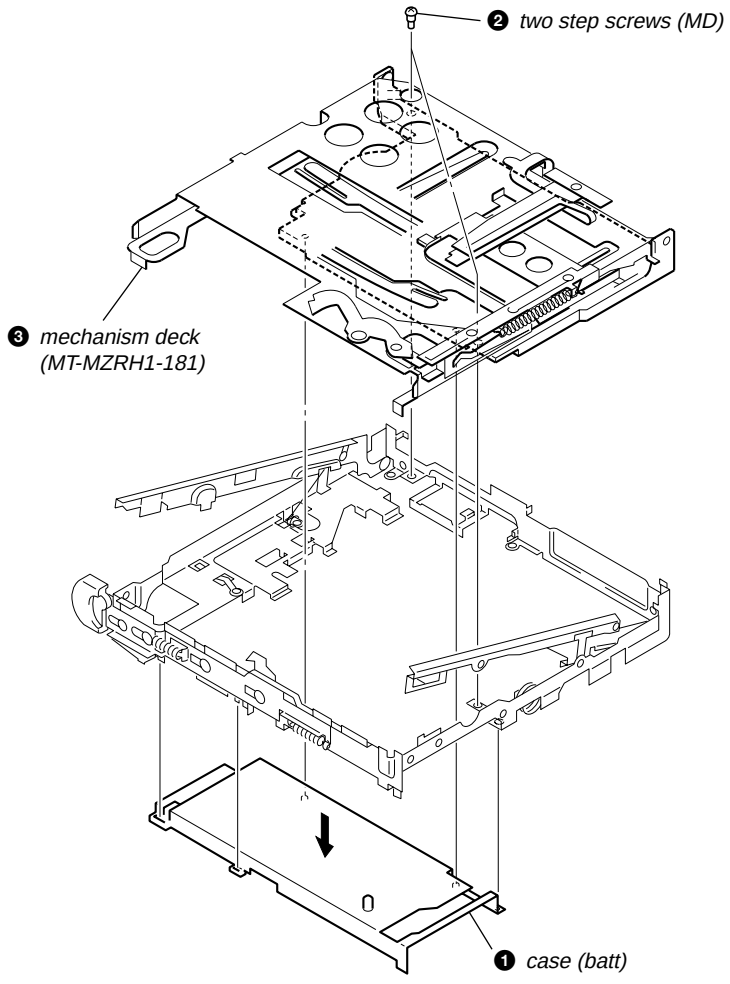


Note: *When mounting the MAIN Board, clean the screw fixing areas (5 places × both sides) of the MAIN Board with alcohol (ethanol), and then tighten the screws. Also, when tightening the screws, use a torque driver and tighten them to a torque range of 0.06 – 0.08N. (Excessive torque over 0.1N could bend the chassis.) (Without cleaning, or with the screws tightened loosely, the set may not start when the USB cable is inserted.)*

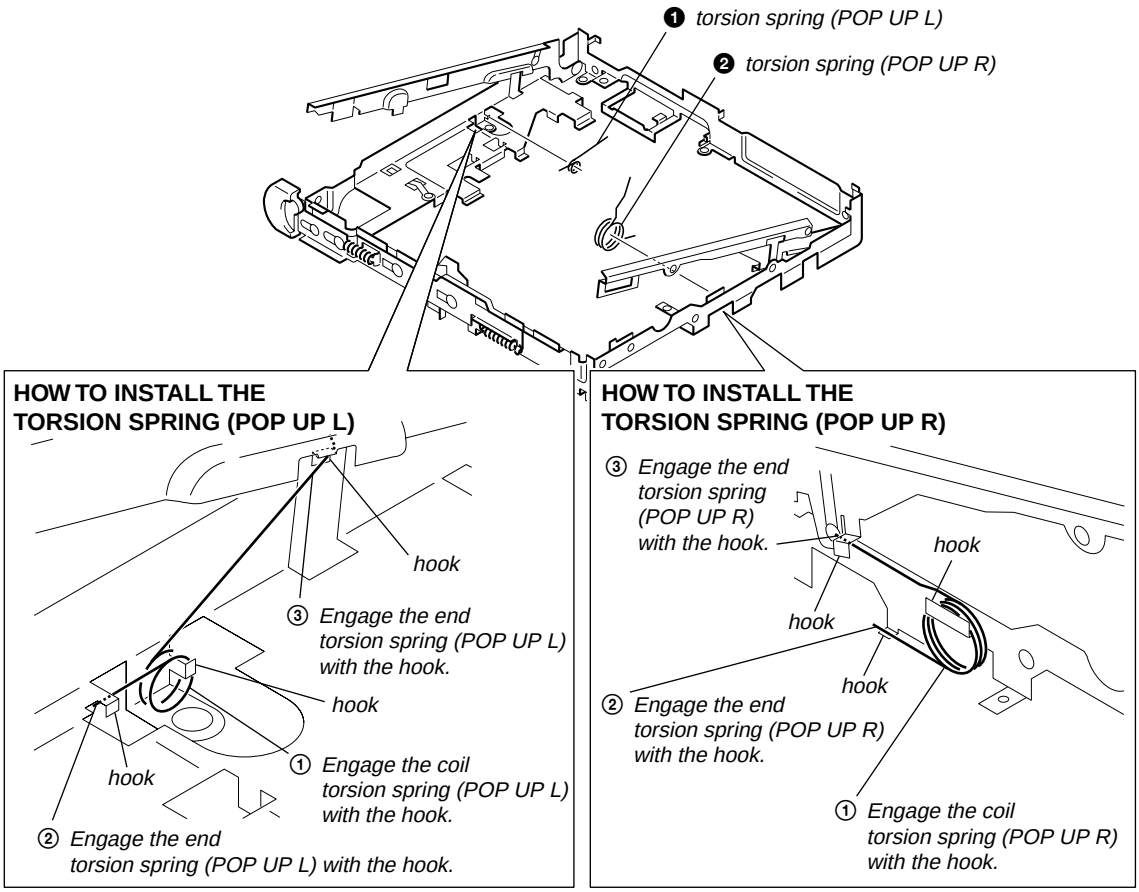
3-5. PANEL (UPPER) ASSY



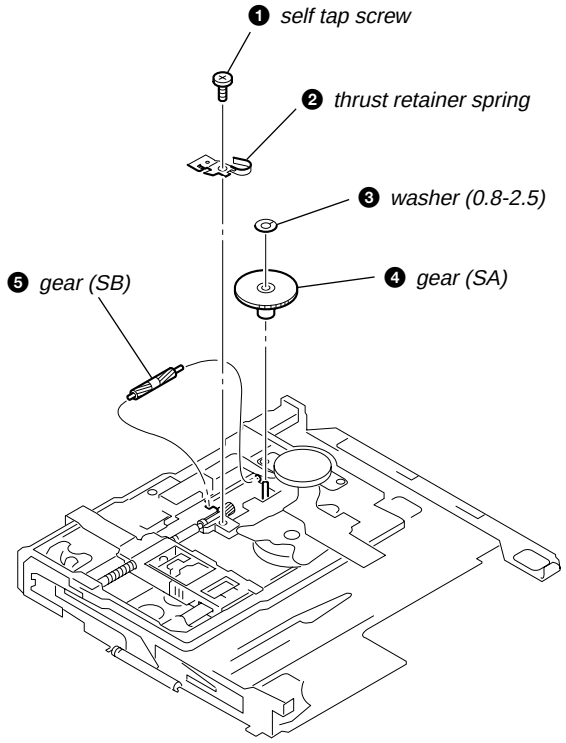
3-6. MECHANISM DECK (MT-MZRH1-181)



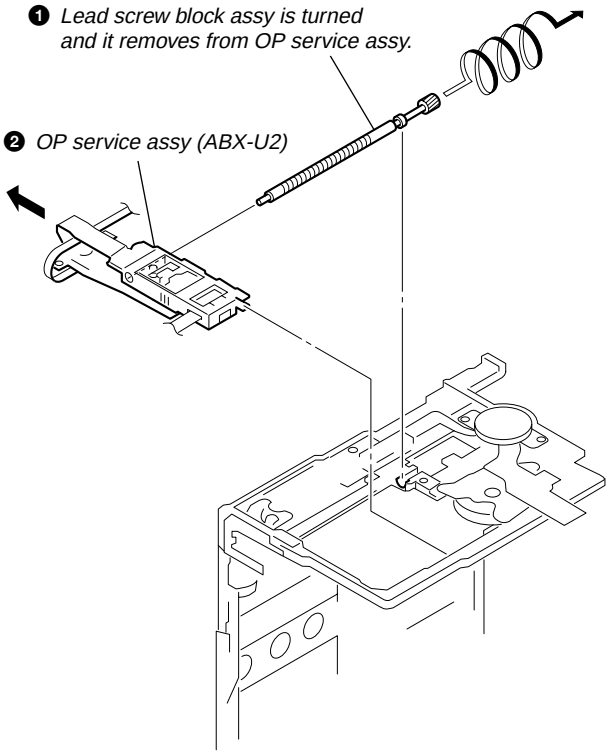
3-7. TORSION SPRING (POP UP L), TORSION SPRING (POP UP R)



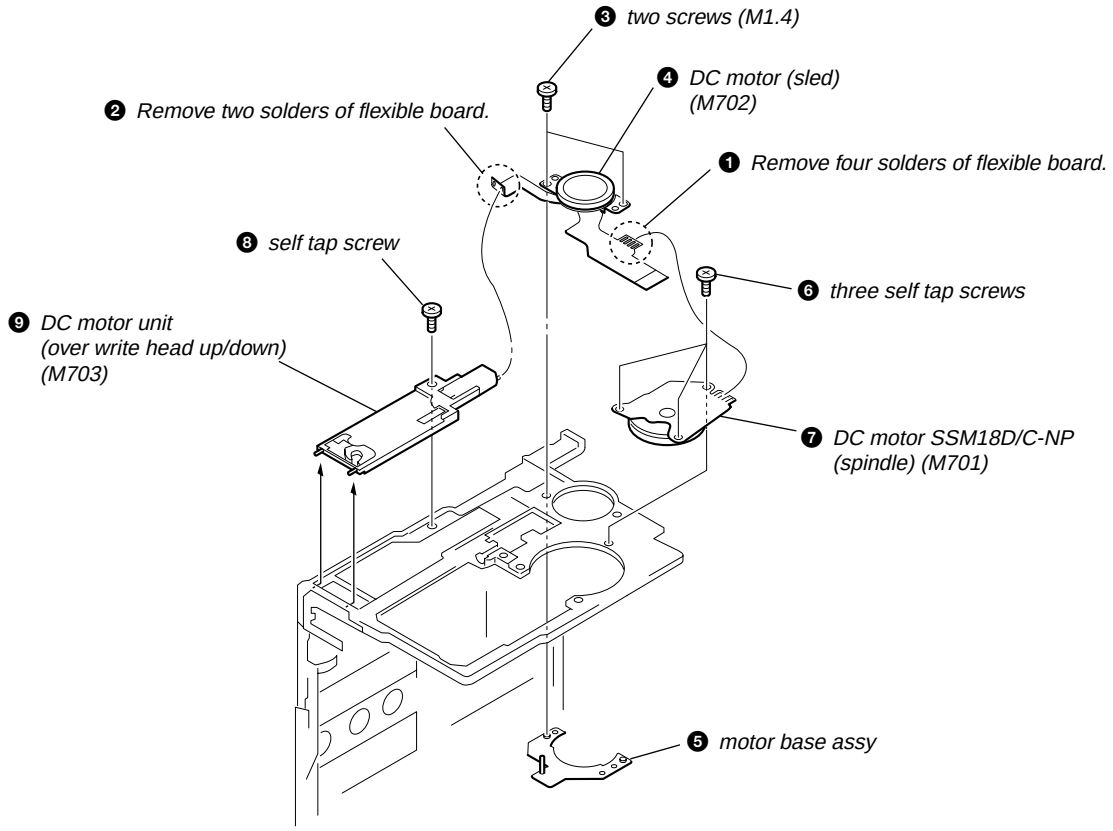
3-8. GEAR (SA), GEAR (SB)



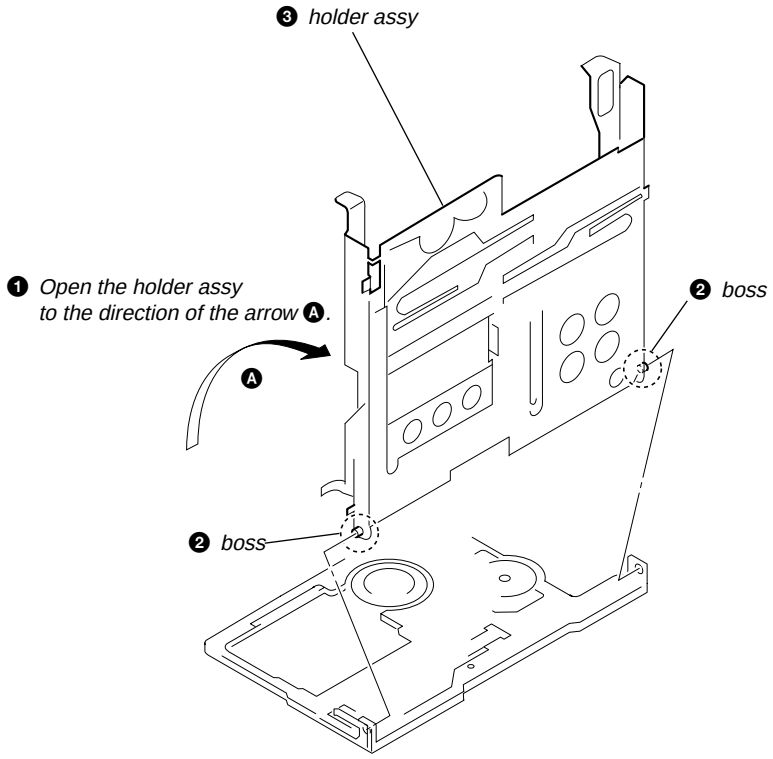
3-9. OP SERVICE ASSY (ABX-U2)



3-10. DC MOTOR SSM18D/C-NP (SPINDLE) (M701), DC MOTOR (SLED) (M702) , DC MOTOR UNIT (OVER WRITE HEAD UP/DOWN) (M703)

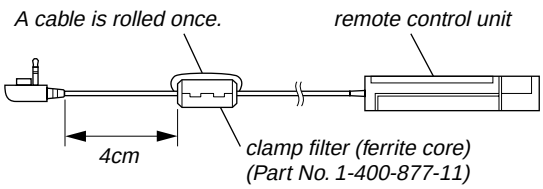


3-11. HOLDER ASSY

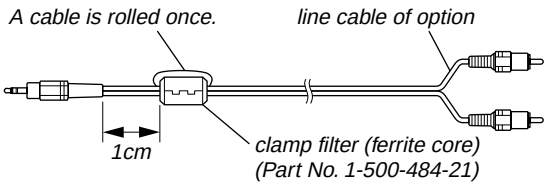


3-12. POSITION OF FERRITE CORE

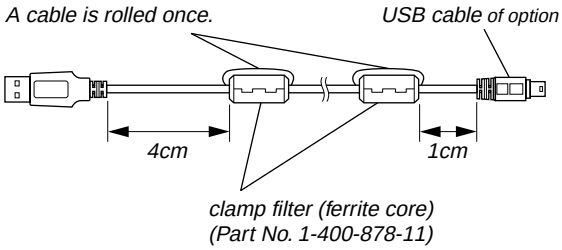
– REMOTE CONTROL UNIT (SUPPLIED) –



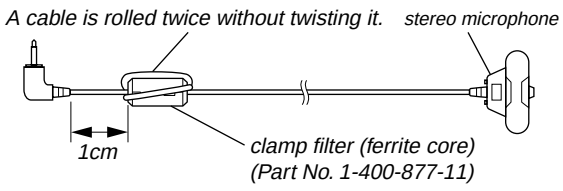
– LINE CABLE (OPTION) –



– USB CABLE (SUPPLIED) –



– STEREO MICROPHONE (OPTION) –



SECTION 4
TEST MODE

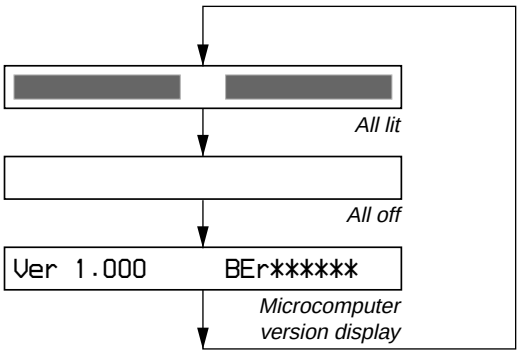
OUTLINE

Operation in the test mode is performed with the set. A key having no particular description in the text, indicates a set key. Also, For the display, the EL display on the set is shown.

1. OPERATION IN SETTING THE TEST MODE

- When the test mode becomes active, first the Display Check mode is selected.
- Other mode can be selected from the Display Check mode.
- When the test mode is set, the EL repeats the following display.
- When the ■ key is pressed and hold down, the display at that time is held so that display can be checked.

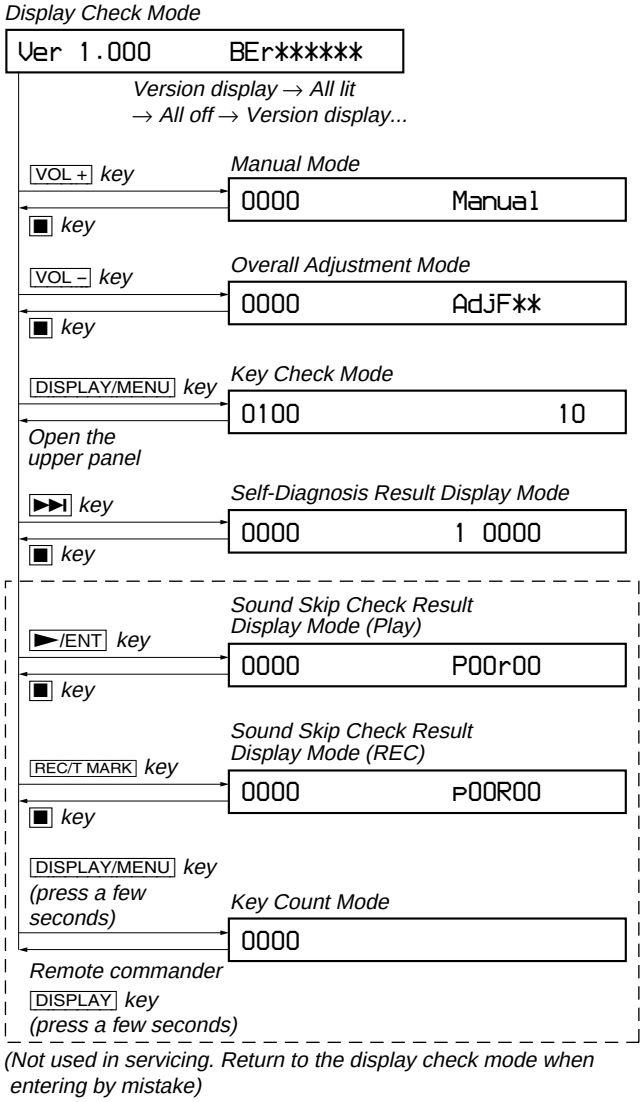
Display check mode:



2. CONFIGURATION OF THE TEST MODE

It shifts from the display check mode to each mode as shown in the figure below.

Flow of the test mode:



(Not used in servicing. Return to the display check mode when entering by mistake)

3. MANUAL MODE

This is mode to adjust or check the operation of the set by function.

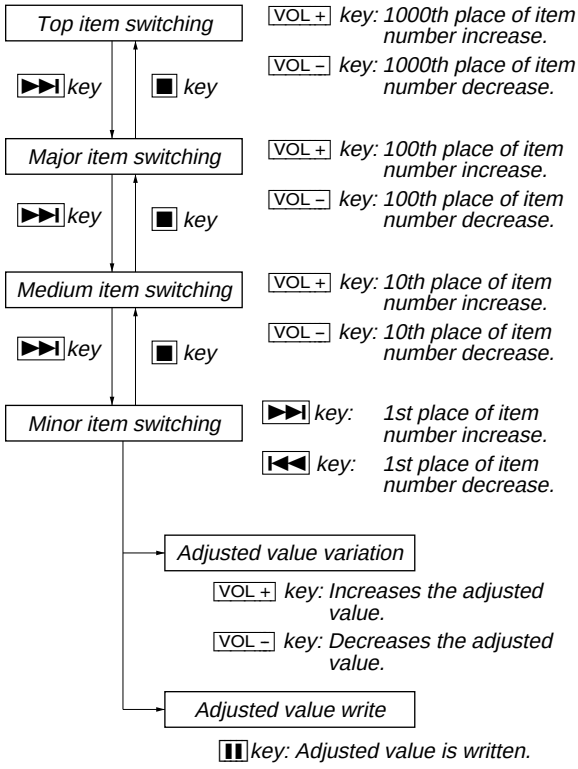
Operation of The Manual Mode

1. Enter the test mode (Display Check mode).
2. Press the VOL+ key to activate the Manual mode where the EL displays as shown below.

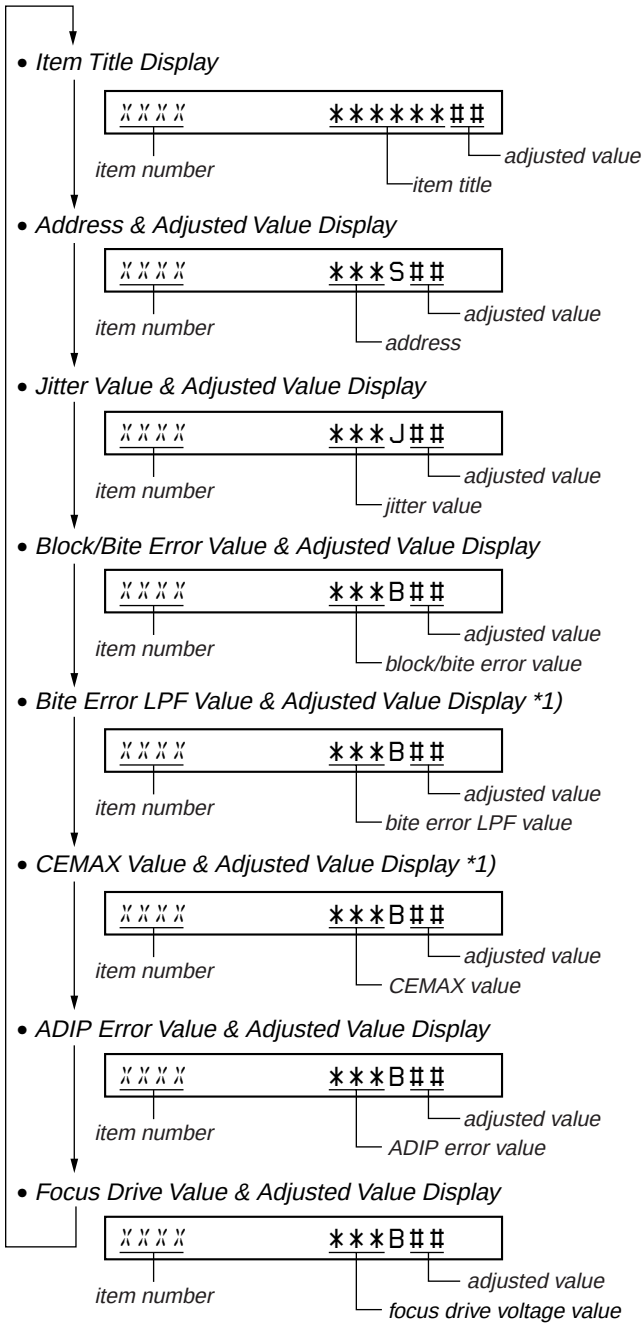


3. During Manual mode, the optical pick-up moves outward or inward while the ▶▶I or I◀◀ key is pressed for several seconds respectively.
4. Each test item is assigned with a four-digit item number; 1000th place is a top item, 100th place is a major item, 10th place is a medium item, and unit place is a minor item.

Flow of manual mode operation:



5. The display changes a shown below each time the DISPLAY/MENU key is pressed.



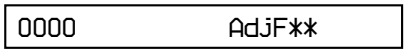
*1) It is skipped excluding the item number 5000 less than 8000.

6. To release the Manual mode, press the ■ key to return to the Display Check mode.

4. OVERALL ADJUSTMENT MODE

Operation of The Overall Adjustment Mode

1. Enter the test mode (Display Check mode).
2. Press the VOL– key to activate the Overall Adjustment mode where the EL displays as shown below.



"":**
If "DF" or "FF" is displayed, it mean that completed the servo overall adjustment.

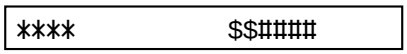
3. To release the Overall Adjustment mode, press the ■ key and return to the Display Check mode.

5. SELF-DIAGNOSIS RESULT DISPLAY MODE

This set uses the self-diagnostic function system in which if an error occurred during the recording or playing, the mechanism control block and the power supply control block in the microcomputer detect it and record its cause as history in the nonvolatile memory. By checking this history in the test mode, you can analyze a fault and determine its location.
Total recording time is recorded as a guideline of how long the optical pick-up has been used, and by comparing it with the total recording time at the time when an error occurred in the self-diagnosis result display mode, you can determine when the error occurred.
Clear the total recording time, if the optical pick-up was replaced.

5-1. Operation of The Self-Diagnosis Result Display Mode

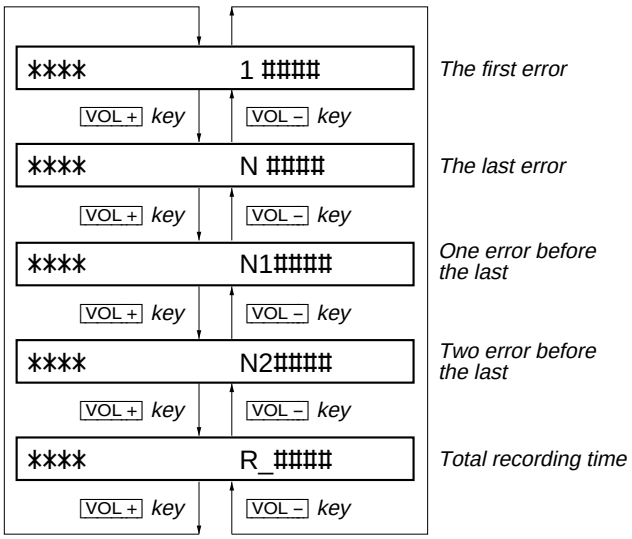
1. Enter the test mode (Display Check mode).
2. Press the ▶▶I key to activate the Self-Diagnosis Result Display mode where the LCD displays as shown below.



"**"** : Error display code
"$$" : Error revision history code
"#####" : Addition information when error occurs

3. To release the Self-Diagnosis Result Display mode, press the ■ key and return to the Display Check mode.

Flow of Self-diagnosis Result Display mode operation:



5-2. Error Code of The Self-Diagnosis Result Display Mode

Error display code	Description
0000	No error
0001	Attempt to access an abnormal address
0002	High temperature detected
0003	Focus error (no change)
0004	Abnormal rotation of disc
0005	Fault of disc discriminate
0006	Error of access loop (no change)
0007	Error of access loop (with change)
0008	Could not read address
0009	Focus error (with change)
0012	Could not read data with SYNC
0013	TOC address data error
0032	Focus error, ABCD offset error
0033	Tracking error, offset error
0034	X1 tracking error, Tracking error, offset error

Error display code	Addition information when error occurs
0000	0000
0001	Illegal cluster specified when error occurs
0002 to 0034	Total recording time when error occurs

5-3. Clear The Total Recording Time

After replacing the optical pick-up, clear the total recording time.

1. Enter the test mode (Display Check mode).
2. Press the [▶▶I] key to activate the Self-Diagnosis Result Display mode.
3. Press the [VOL–] key once to display the total recording time indication.
4. Press the [II] key and display “ClrOK?”.
5. Press the [II] key again to display “RecT 0” and clear the total recording time.

6. KEY CHECK MODE

This mode is used for key check.

Operation of The Key Check Mode

1. Enter the test mode (Display Check mode).
2. Press the [DISPLAY/MENU] key to activate the Key Check mode where the LCD displays as shown below.



“$$$$$$” : Pressed key name.
When remote commander key is pressed, display becomes as “r$$$$$”.
“##” : Key voltage of remote commander. (Hexadecimal number)

3. To release the Key Check mode, open the upper panel and return to the Display check mode.

SECTION 5
ELECTRICAL ADJUSTMENTS

1. PRECAUTIONS FOR ADJUSTMENT

1. Adjustment must be done in the test mode only. After adjusting, release the test mode. A key having no particular description in the text, indicates a set key. Also, for the display, the EL display on the set is shown.
2. Use the following tools and measuring instruments.

- Digital voltmeter
- Regulated dc power supply (two sets)
- Laser power meter
- CD adjustment disc TDYS-1 (Part No. : 4-963-646-01)
- MD1/HiMD1 hybrid adjustment disc MDW-74/GA2 (Part No.: J-2503-022-A)
- Hi-MD3 adjustment disc HMD1GSDJ (Part No. : 8-892-388-38) *1
- USB cable, AC power adapter and AC cord in accessories

*1) Hi-MD3 adjustment disc (HMD1GSDJ) is consumable. Therefore if it is used 400 times, exchange it for a new.

2. ADJUSTMENT SEQUENCE

Adjustment must be done with the following order.

Adjustment order:

1. Entering the test mode

Note: Enter the test mode with a key.

2. Initialize the adjustment value
3. Power supply voltage adjustment
4. Charge function check
5. Laser power check
6. Setting the adjustment values
7. Servo Overall adjustment
8. Resume clear
9. Releasing the test mode

3. ADJUSTMENT OF THE EACH ITEM

3-1. Initialize The Adjustment Value

Procedure:

1. In the test mode (Display Check mode), press the [VOL–] key to enter the Overall adjustment mode.
2. Press the [T MARK] key and display “1911 ResOK?”.
3. Press the [⏸] key to display “1911 Reset!” and initialize the adjustment values.
4. Press the [■] key and back to Display Check mode.

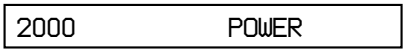
3-2. Power Supply Voltage Adjustment

Adjustment must be done with the following order.

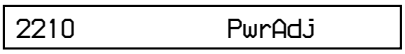
3-2-1. Setting

Procedure:

1. Apply the voltage of 3.7 V to W401 (BATT+) and W402 (BATT–), and enter the test mode (Display Check mode).
2. Press the [VOL+] key to enter the Manual mode.
3. Press the [VOL+] key twice to display as follows.



4. Press the [▶▶I] key once, press the [VOL+] key once, and press the [▶▶I] key once again to display as follows.

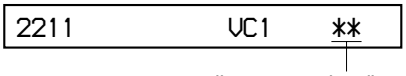


5. Repeat the next procedures (3-2-2. PwrAdj Adjustments), and adjust all contents of “table 3-2-1. PwrAdj Specifications”.

3-2-2. PwrAdj adjustments

Repeat the following procedures and adjust all contents of “table 3-2-1. PwrAdj Specifications”.

Example Display (Item No. 2211)



adjustment value (hexadecimal)

Procedure:

1. Connect the digital voltmeter to measuring point (refer to the following table 3-2-1) and CL965 (GND).
2. Press the [▶▶I] key to change the item number to 2211.
3. Adjust with [VOL+]/[VOL–] keys so that the value of digital voltmeter becomes specification value.
4. Press the [⏸] key to write the adjusted value. (Shifts to the next item automatically)
5. Repeat adjustment from step 3 until item number 2234.

Item No.	Display	Specification value	Measuring point
2211	VC1 ✻✻	2.05V + 0.02V	TP8065
2212	VC1H N ✻✻	2.25V ± 0.01V	TP8065
2213	VC2L ✻✻	1.50V + 0.01V	CL8001
2214	VC2H ✻✻	1.50V + 0.01V	CL8001
2217	REG1 L ✻✻	3.02V ± 0.02V	CL954
2218	REG1 H ✻✻	3.02V ± 0.02V	CL954
2219	REG2 1 ✻✻	2.275V ± 0.01V	CL951
2221	REG2 2 ✻✻	2.480V ± 0.01V	CL951
2222	REG2 3 ✻✻	2.740V ± 0.01V	CL951
2223	REG2 4 ✻✻	2.985V ± 0.01V	CL951
2224	REG3 ✻✻	2.52V ± 0.02V	CL947
2225	VREC 1 ✻✻	0.75V ± 0.02V	CL601
2226	VREC 2 ✻✻	0.80V ± 0.02V	CL601
2227	VREC 3 ✻✻	1.52V ± 0.02V	CL601
2228	VREC 4 ✻✻	2.17V ± 0.02V	CL512
2229	VREC 5 ✻✻	2.78V ± 0.02V	CL512
2231	VREC 6 ✻✻	0.75V ± 0.02V	CL601
2232	VREC 7 ✻✻	0.90V ± 0.02V	CL601
2233	VREC 8 ✻✻	2.10V ± 0.02V	CL601
2234	VREC 9 ✻✻	2.70V ± 0.02V	CL601

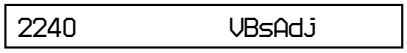
Note1: "✻✻" is adjustment value (hexadecimal number).
Note2: Ground point of all measuring points is CL965.
Note3: Item number 2228, 2229 are adjusted with the mechanism deck connected.

Table 3-2-1. PwrAdj Specifications

3-2-3. VBsAdj adjustments

Procedure:

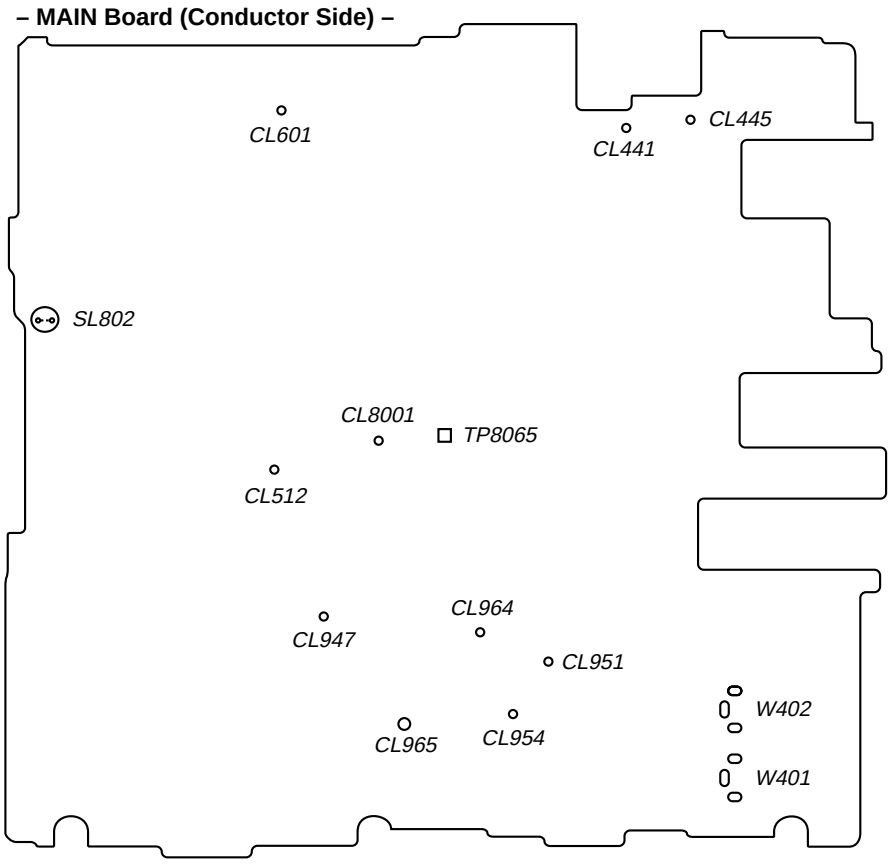
1. In the "3-2-2. PwrAdj Adjustments" completed status, display as follows.



2. Apply the voltage of 5 V to CL441 (VBUS 5V) and CL445 (VBUS GND).
3. Press the [▶▶I] key to change the item number to 2241.
4. Adjust with [VOL+]/[VOL–] keys so that the value of digital voltmeter becomes specification value. (Refer to "table 3-2-2. VBsAdj Specifications")
5. Press the [II] key to write the adjusted value.
6. Repeat adjustments to item number 2242 at the same manner as step 4 to step 5.
7. Select the item number 2244, and turn off the power supply of applying to W401 (BATT+) and W402 (BATT–).
8. Repeat adjustments to item number 2244, 2245 and 2246 at the same manner as step 4 to step 5.
9. Apply the voltage of 3.7 V to W401 (BATT+) and W402 (BATT–) again.
10. Turn off the voltage of 5 V to CL441 (VBUS 5V) and CL445 (VBUS GND).
11. Press the [■] key three times and back to the Display Check mode.

Adjustment Location:

– MAIN Board (Conductor Side) –



Item No.	Display	Specification value	Measuring point
2241	REG4 ✻✻	1.13 V ± 0.01 V	CL8001
2242	REG5 ✻✻	2.05 V + 0.02 V	TP8065
2244	DDC5 N ✻✻	4.20 V – 0.02 V	CL964
2245	DDC5 C ✻✻	4.45 V – 0.02 V	CL964
2246	DDC5 L ✻✻	4.20 V – 0.02 V	CL964

Note1: "✻✻" is adjustment value (hexadecimal number).
Note2: Ground point of all adjustment points is CL965.
Note3: Refer to page 17 for adjustment location.

Table 3-2-2. VBsAdj Specifications

3-3. Charge Function Check

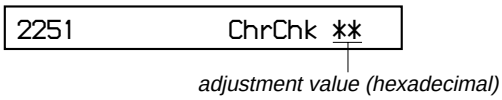
Note1: When perform this check, don't apply a voltage to battery terminals.
Note2: Be sure to turn the power off when connecting the resistor. Doing so with the power supply connected causes a trouble.

Procedure:

1. Connect the resistor (10Ω, more than 3W) to battery terminals.
2. Connect the USB cable, AC adapter and AC cord, and turn the power on.
3. Enter the test mode (Display Check mode).
4. Press the [VOL+] key to enter the Manual mode.
5. Press the [VOL+] key twice, press the [▶▶I] key once, press the [VOL+] key once.
6. Press the [▶▶I] key once, press the [VOL+] key twice to display as follows.



7. Press the [▶▶I] key to select the item number 2251.

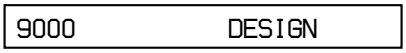


8. Press the [II] key to check the "ADJ OK" that is displayed.
9. Press the [■] key four times and back to the Display Check mode.

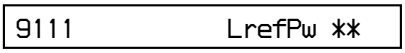
3-4. Laser Power Check

Procedure:

1. Enter the test mode (Display Check mode).
2. Press the [VOL+] key to enter the Manual mode.
3. Open the upper panel and press the [I◀◀] key continuously until the optical pick-up moves to the most inward track.
4. Press the [VOL–] key once to display as follows.



5. Press the [▶▶I] key three times to select the item number 9111 and display as follows.



6. Set the laser power meter so that the laser beam from the optical pick-up aims at the objective lens of laser power meter at right angle. (Confirm it with the disc not inserted)
7. Confirm that the value of laser power meter is 0.860 mW ± 19.2%.
8. Press the [▶▶I] key to select the item number 9112.
9. Confirm that the value of laser power meter is 0.763 mW ± 18.2%.
10. Press the [▶▶I] key to select the item number 9113.
11. Confirm that the value of laser power meter is 6.87 mW ± 12%.
12. Press the [■] key four times and back to the Display Check mode.

3-5. Setting The Adjustment Values

3-5-1. Hi-MD3 setting

Preparation:

1. Perform calculation every item based on the data given by the Hi-MD3 adjustment disc by referring to the following table. (Round off the value in decimal place)
2. Convert the calculated value into hexadecimal number.

Note: The Hi-MD3 adjustment parameters vary depending on the disc, and therefore use the parameters of the disc used when performing the adjustment.

Item No.	Calculating formula (*3)
0211	Pr_nominal / 0.05
(*1)	Por / 0.05
0212	Kr × (–100)
0213	Pw_nominal / 0.05
(*2)	Ppw / 0.05
0214	Kw × (–100)
0215	Prmin / 0.05
0216	Pwmin / 0.05

*1) If the “Pr_nominal” value is indicated, use the “Pr_nominal” value and not used “Por” value.
*2) If the “Pw_nominal” value is indicated, use the “Pw_nominal” value and not used “Ppw” value.
*3) Round off after the decimal point.

Table 3-5-1. Hi-MD3 adjustment parameter

Example of Calculation:

Item No.	Parameter		Result	
			Decimal	Hexadecimal
0211	Pr_nominal	2.50 mW	50	32h
0212	Kr	–0.3 %/°C	30	1Eh
0213	Pw_nominal	7.35 mW	147	93h
0214	Kw	–0.4 %/°C	40	28h
0215	Prmin	1.9 mW	38	26h
0216	Pwmin	5.8 mW	116	74h

Procedure:

1. Enter the test mode (Display Check mode).
2. Press the [VOL+] key to enter the Manual mode.
3. Press the [▶▶I] key once, press the [VOL+] key once, and press the [▶▶I] key once again to display as follows.

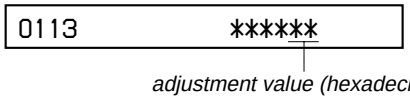


4. Press the [▶▶I] key once to select the item number 0211.
5. Adjust with [VOL+]/[VOL–] keys so that the adjustment value of EL becomes calculated value.
6. Press the [II] key to write the adjusted value.
7. Press the [▶▶I] key to next item.
8. Repeat adjustment from step 4 until item number 0216.

3-5-2. Destination setting

Procedure:

1. Enter the test mode (Display Check mode).
2. Press the [VOL+] key to enter the Manual mode.
3. Press the [▶▶I] key five time to select the item number 0113 and display as follows.



4. Adjust with [VOL+]/[VOL–] keys so that the adjustment value of EL becomes “01” (US, Canadian models) or “81” (AEP model).
5. Press the [II] key to write the adjusted value.
6. Press the [■] key four times and back to the Display Check mode.

3-6. Servo Overall Adjustment

3-6-1. Operation of the overall adjustment mode

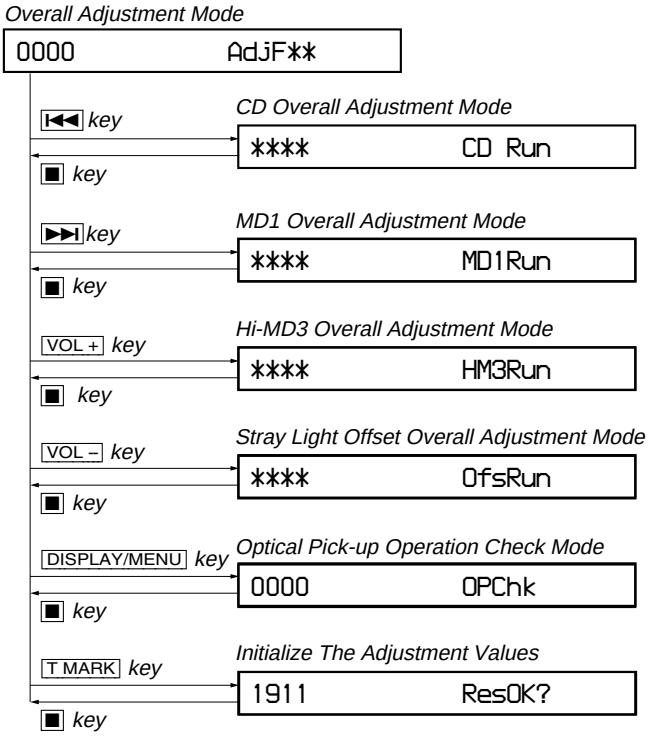
Note1: Be sure to adjustment so that the set is horizontal and the upper panel is upside. Unless performed in that state, it is not adjusted correctly.

Note2: If NG is displayed in the middle of this adjustments, perform "3-1. Initialize The Adjustment Value" and "3-5. Setting The Adjustment Values" again, then retry this adjustments from step 1.

Procedure:

1. Enter the test mode (Display Check mode).
2. Press the [VOL–] key to enter the Overall Adjustment mode.
3. Insert the CD adjustment disc (TDYS-1).
4. Put the main unit horizontal so that the upper panel becomes upside, and press the [⏮] key.
5. Wait until "CD OK" is displayed on the EL.
6. Insert the MD1/HiMD1 hybrid adjustment disc (MDW-74/GA2).
7. Put the main unit horizontal so that the upper panel becomes upside, and press the [⏭] key.
8. Wait until "MD1 OK" is displayed on the EL.
9. Insert the Hi-MD3 adjustment disc (HMD1GSDJ).
10. Put the main unit horizontal so that the upper panel becomes upside, and press the [VOL+] key.
11. Wait until "HMD3OK" is displayed on the EL.
12. Eject the disc and close the upper panel.
13. Put the main unit horizontal so that the upper panel becomes upside, and press the [VOL–] key.
14. Wait until "OfstOK" is displayed on the EL.
15. Press the [■] key and back to the Display Check mode.

Flow of overall adjustment mode:



3-6-2. Error message in the overall adjustment mode

In the Overall Adjustment mode, if an error occurred, it displays as following table.

Display	Description
Close!	Dose not close the lid
DfDis!	Unsuitableness disc was inserted
NoChg!	Does not finish the check of charge function yet
NotCD!	Does not complete the CD Overall adjustment before the MD1 Overall adjustment
NotM1!	Does not complete the MD1 Overall adjustment before the Hi-MD3 Overall adjustment
NotH3!	Does not complete the Hi-MD3 Overall adjustment before the Stray Light Offset Overall adjustment
****NG	Error of item number "****"

3-7. Resume Clear

Procedure:

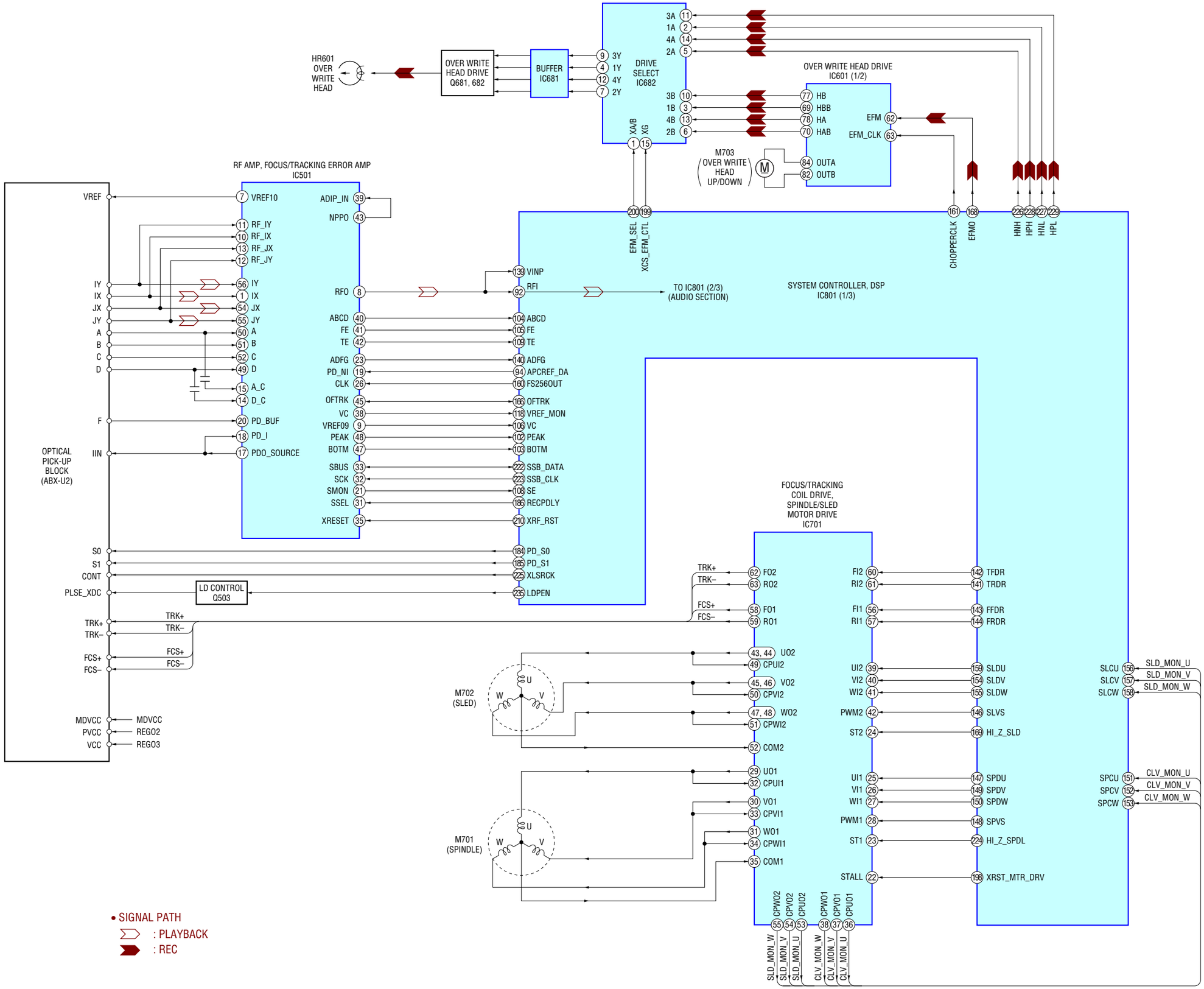
1. Enter the test mode (Display Check mode).
2. Press the [VOL+] key to enter the Manual mode.
3. Press the [VOL+] key once, press the [⏭] key once, press the [VOL–] key once, press the [⏭] key once, and press the [VOL+] key twice, press the [⏭] key three times to select the item number 1933.
4. Press the [⏸] key to resume clear.
5. Press the [■] key four times and back to the Display Check mode.

3-8. Releasing The Test Mode

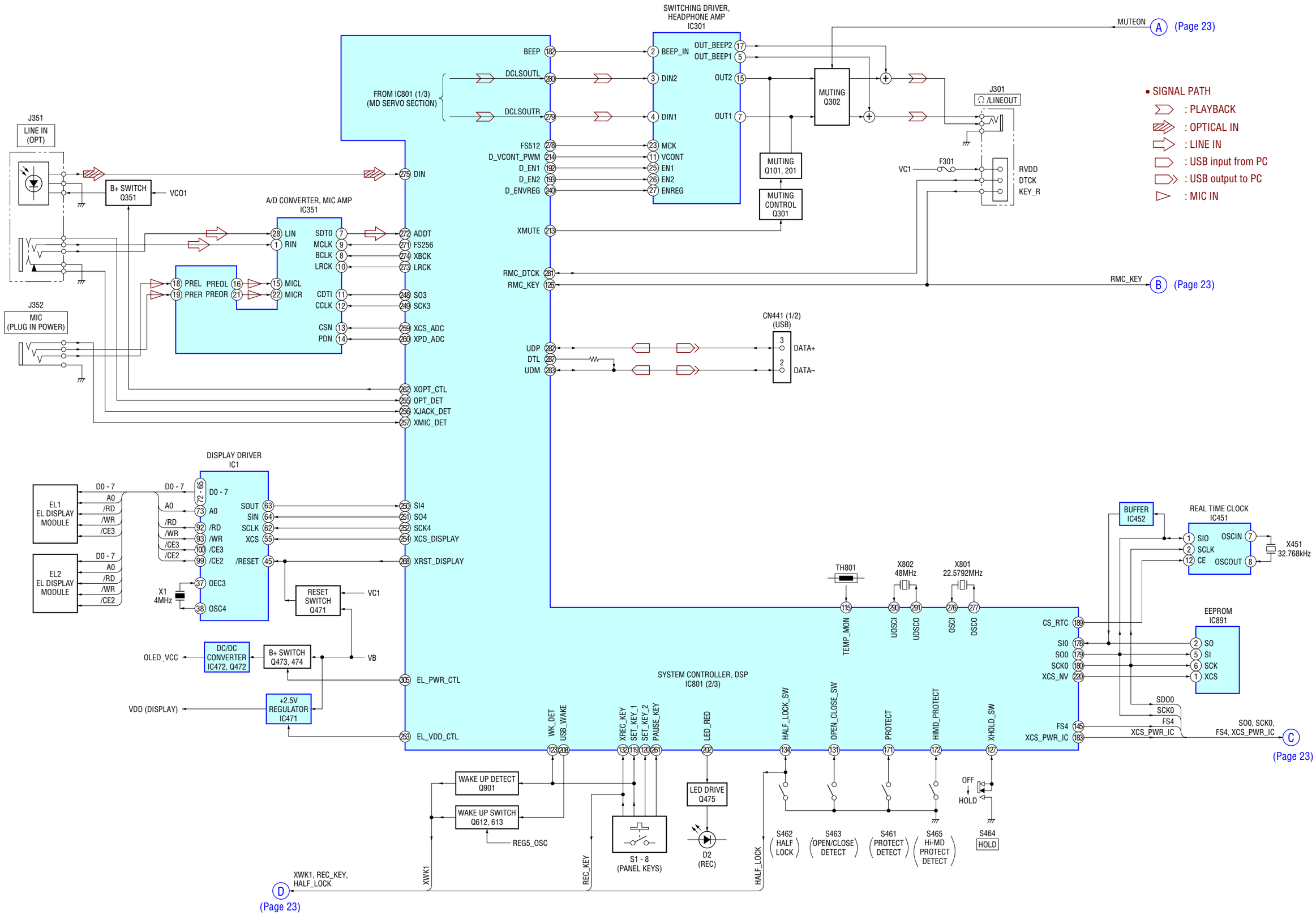
Note: When the power supply is switched on in the state where all electrical adjustments have not finished, it is displayed on EL as "Error EE'' and the usual operation can't be performed. When a power supply is accidentally turn off in the middle of electrical adjustments, it is again set as test mode and electrical adjustments is mode to complete.

SECTION 6
DIAGRAMS

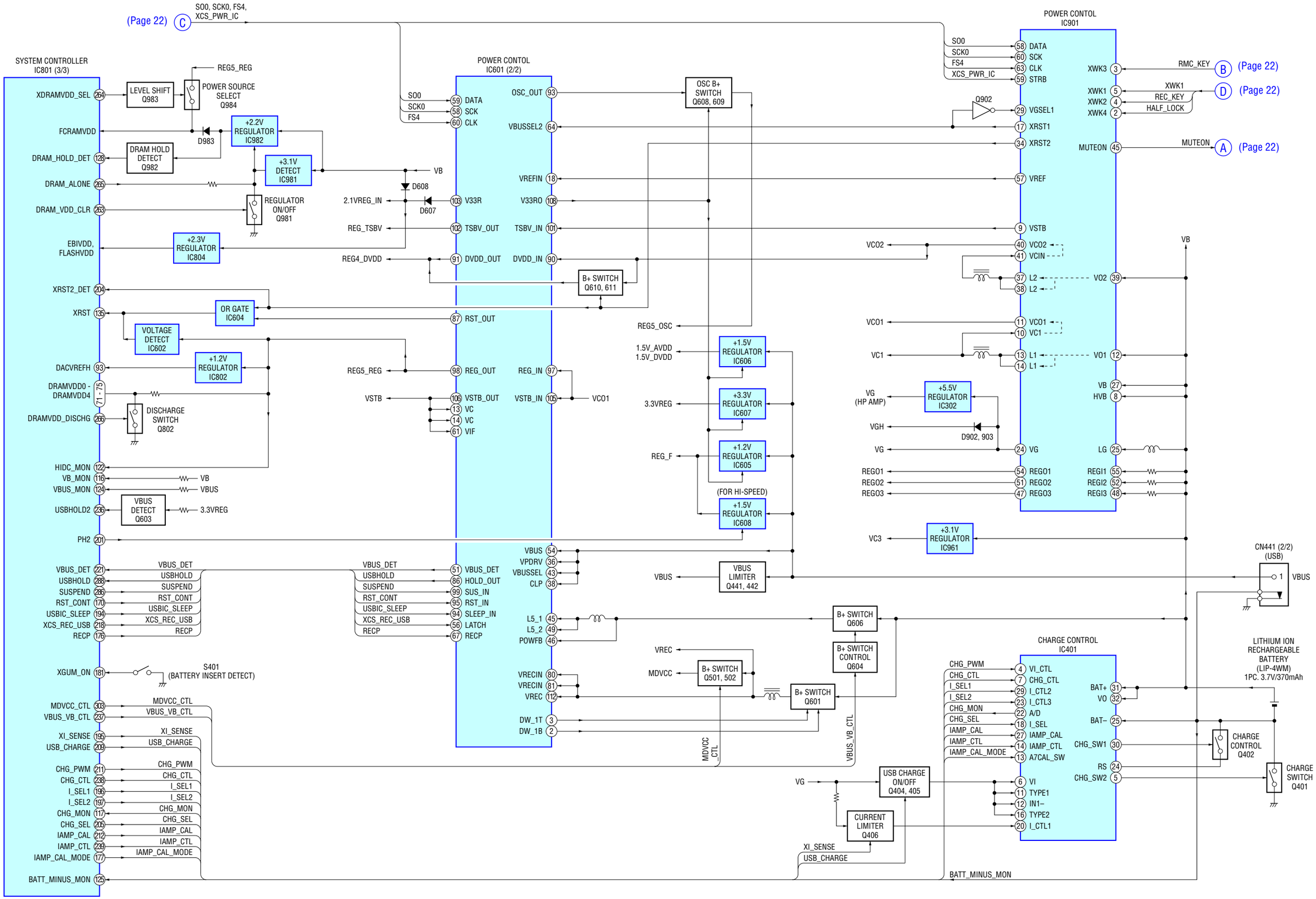
6-1. BLOCK DIAGRAM – SERVO Section –



6-2. BLOCK DIAGRAM – AUDIO Section –



6-3. BLOCK DIAGRAM – POWER SUPPLY Section –



• Note For Printed Wiring Boards and Schematic Diagrams

Note on Printed Wiring Board:

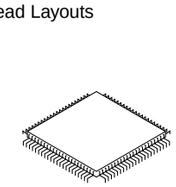
- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- △ : internal component.
- ▬ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

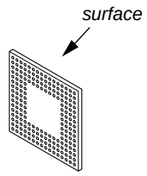
Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

* Replacement of IC401, IC501, IC601 and IC701 on the MAIN board used in this set requires a special tool.

- MAIN board is multi-layer printed board. However, the patterns of intermediate-layer have not been included in this diagrams.
- Lead Layouts



Lead layout of conventional IC



CSP (chip size package)

Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. (p: pF) 50 V or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

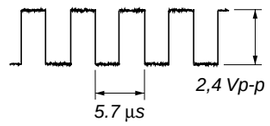
- ▬ : B+ Line.
- Power voltage is dc 3.7 V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : PLAYBACK
  ( ) : REC
  * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : PLAYBACK
  : REC
  : OPTICAL IN
  : LINE IN
  : USB input from PC
  : USB output to PC
  : MIC IN
- Abbreviation
  CND : Canadian model

* Replacement of IC401, IC501, IC601 and IC701 on the MAIN board used in this set requires a special tool.

- The voltage and waveform of CSP (chip size package) cannot be measured, because its lead layout is different form that of conventional IC.

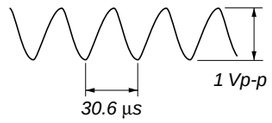
• Waveforms
– MAIN Board –

① **IC901 ㊸ (CLT)**



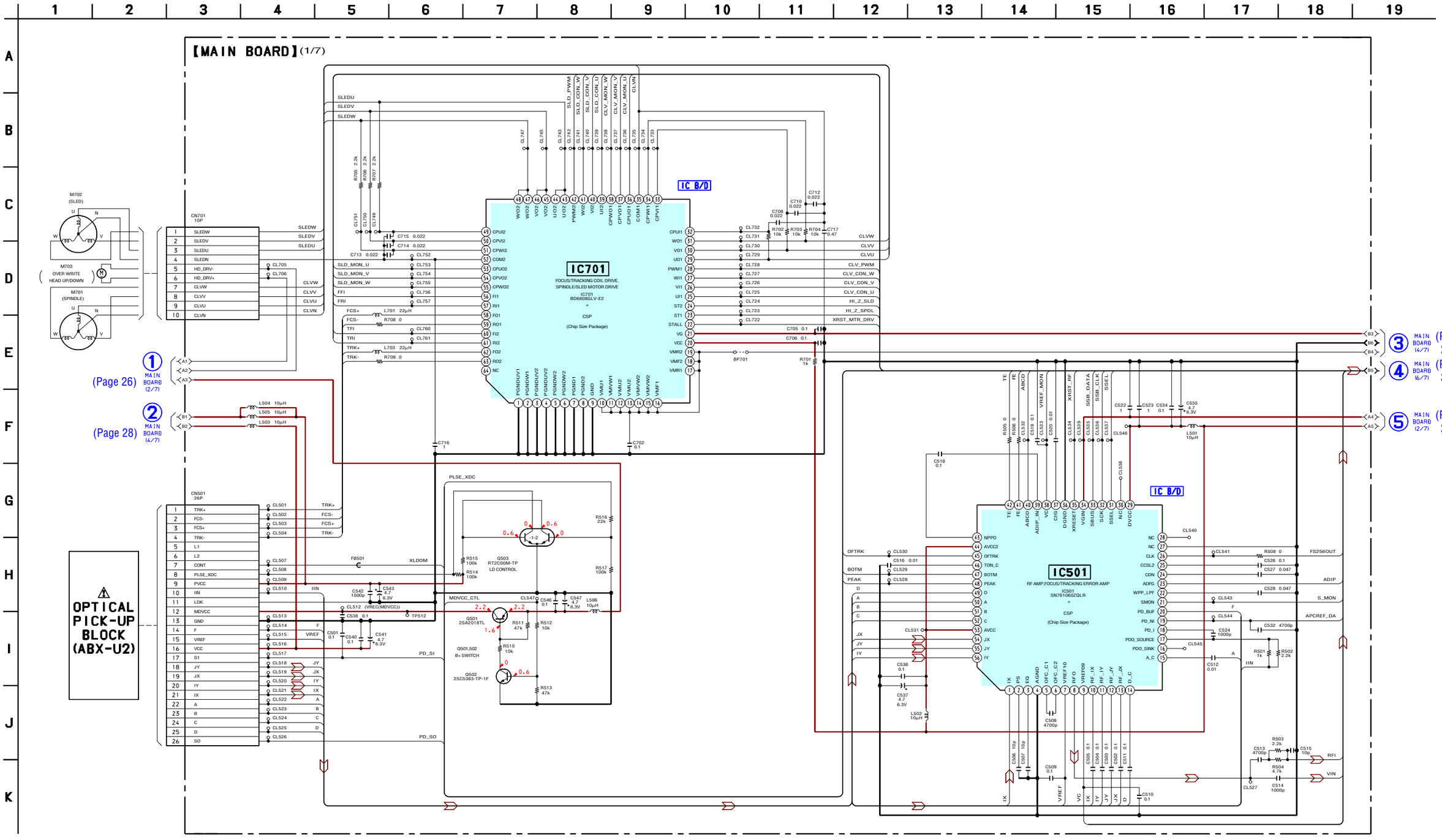
500 mV/DIV, 2 μs/DIV

② **IC451 ⑧ (OSCOUT)**

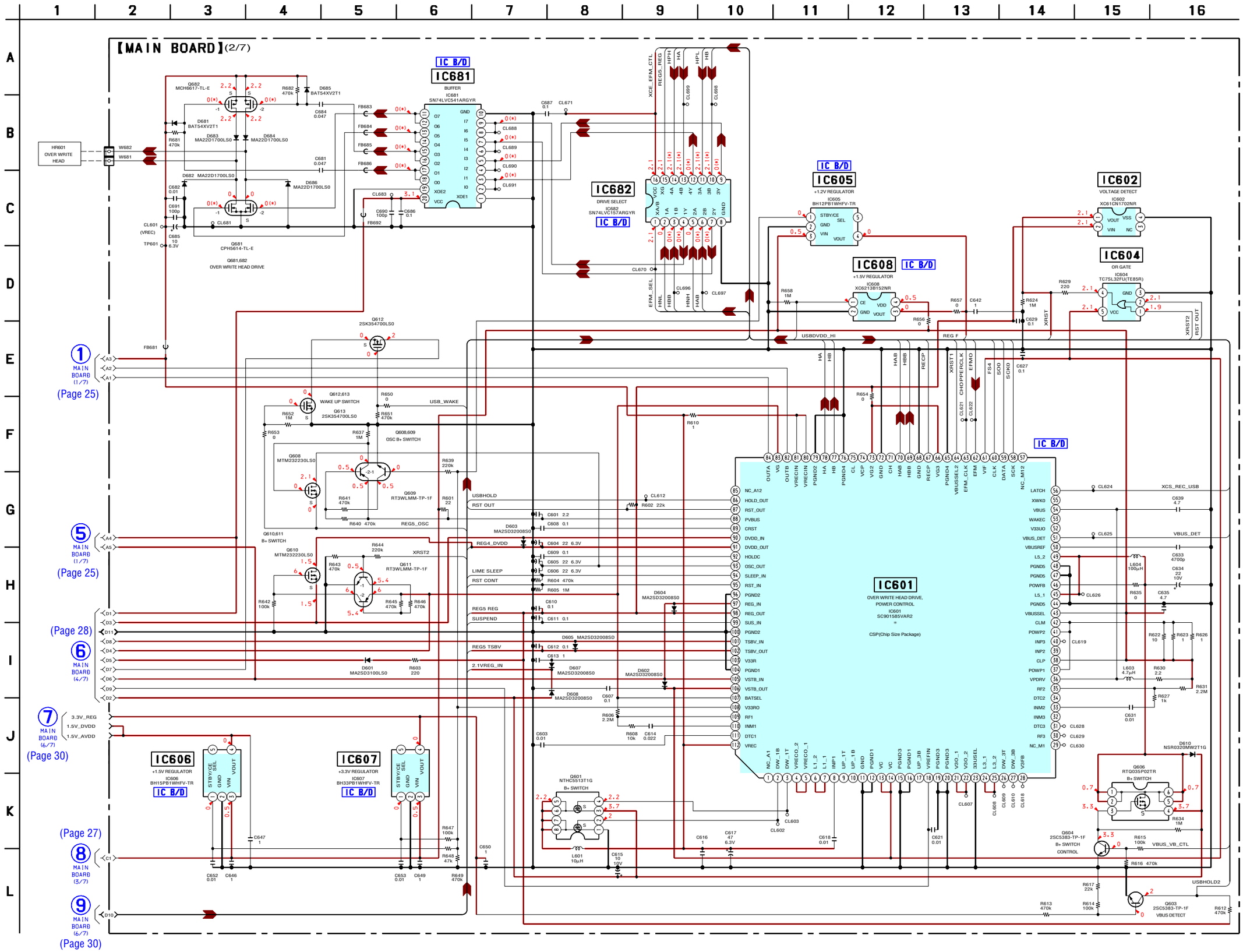


500 mV/DIV, 20 μs/DIV

6-4. SCHEMATIC DIAGRAM – MAIN Section (1/7) – • See page 36 for IC Block Diagrams.

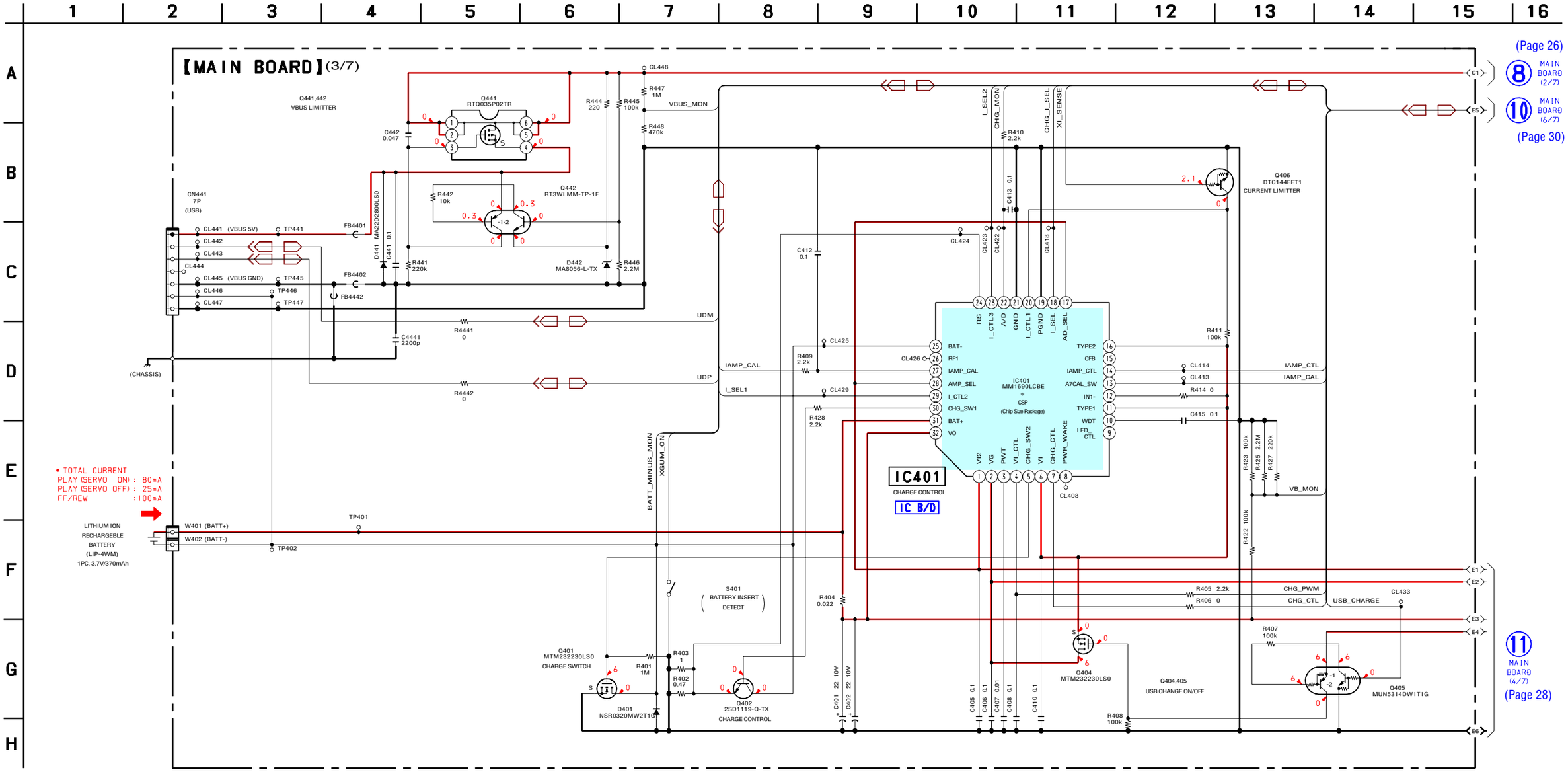


6-5. SCHEMATIC DIAGRAM – MAIN Section (2/7) – • See page 36 for IC Block Diagrams.



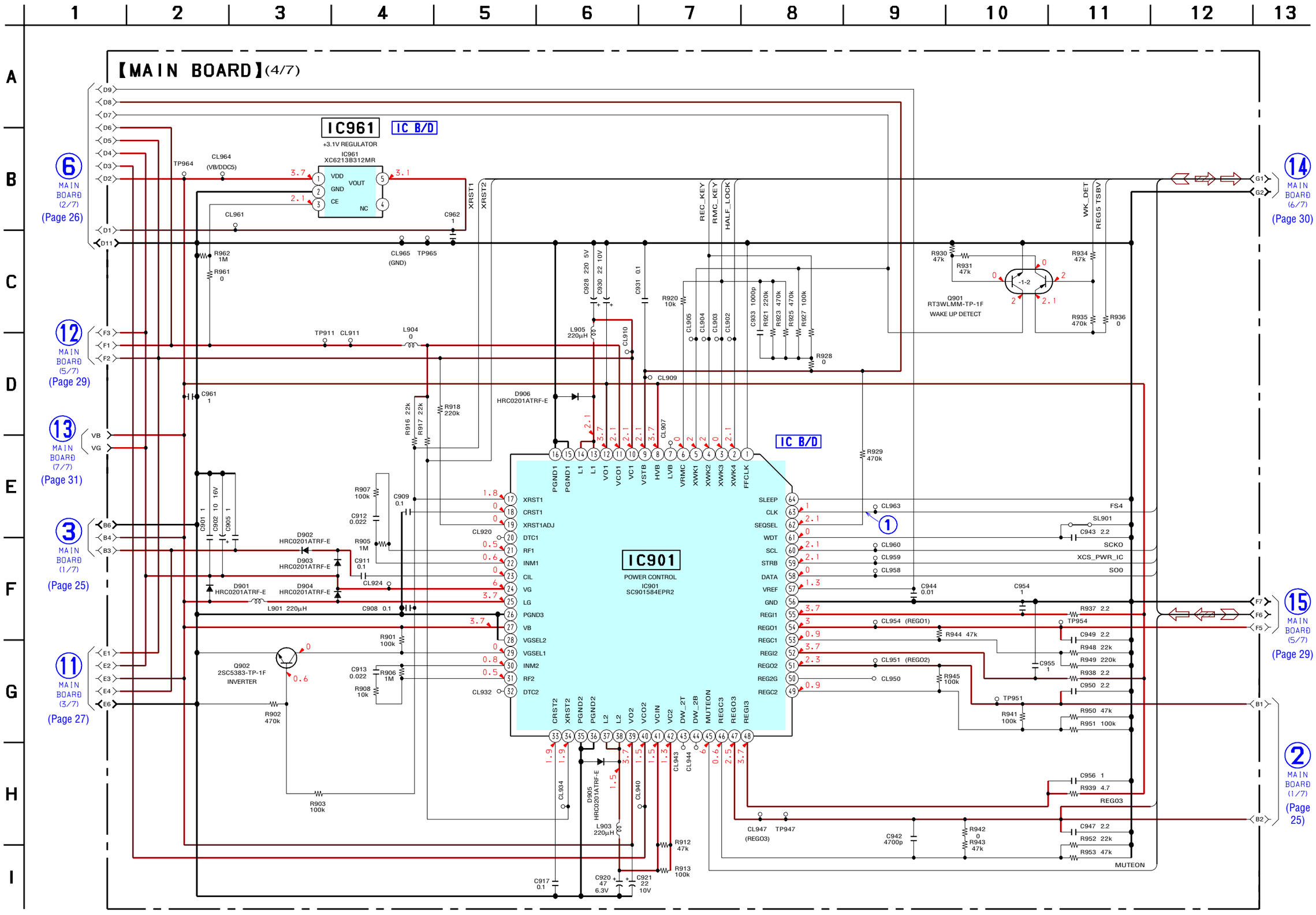
6-6. SCHEMATIC DIAGRAM – MAIN Section (3/7) –

• See page 36 for IC Block Diagrams.

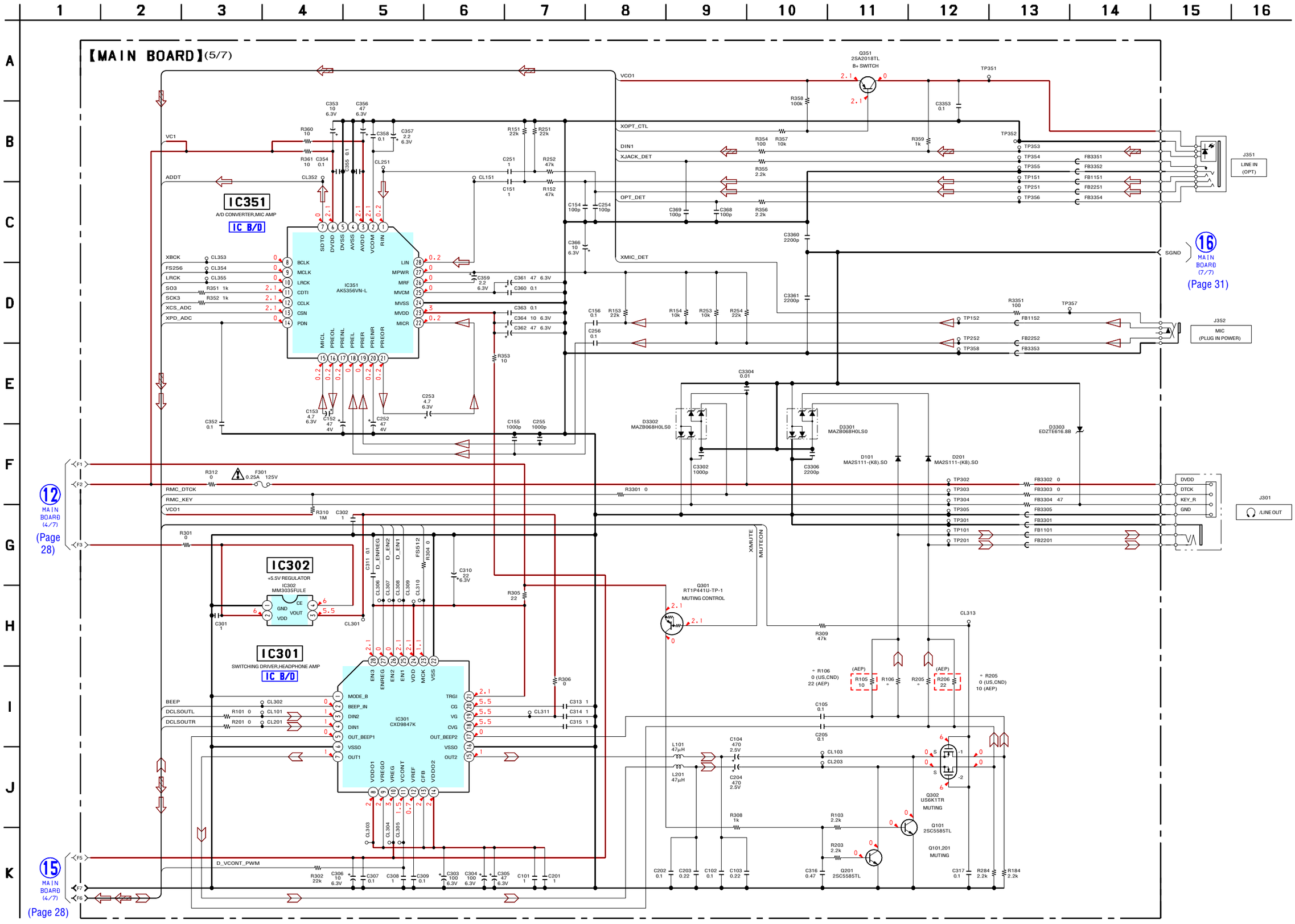


6-7. SCHEMATIC DIAGRAM – MAIN Section (4/7) –

• See page 24 for Waveforms. • See page 36 for IC Block Diagrams.

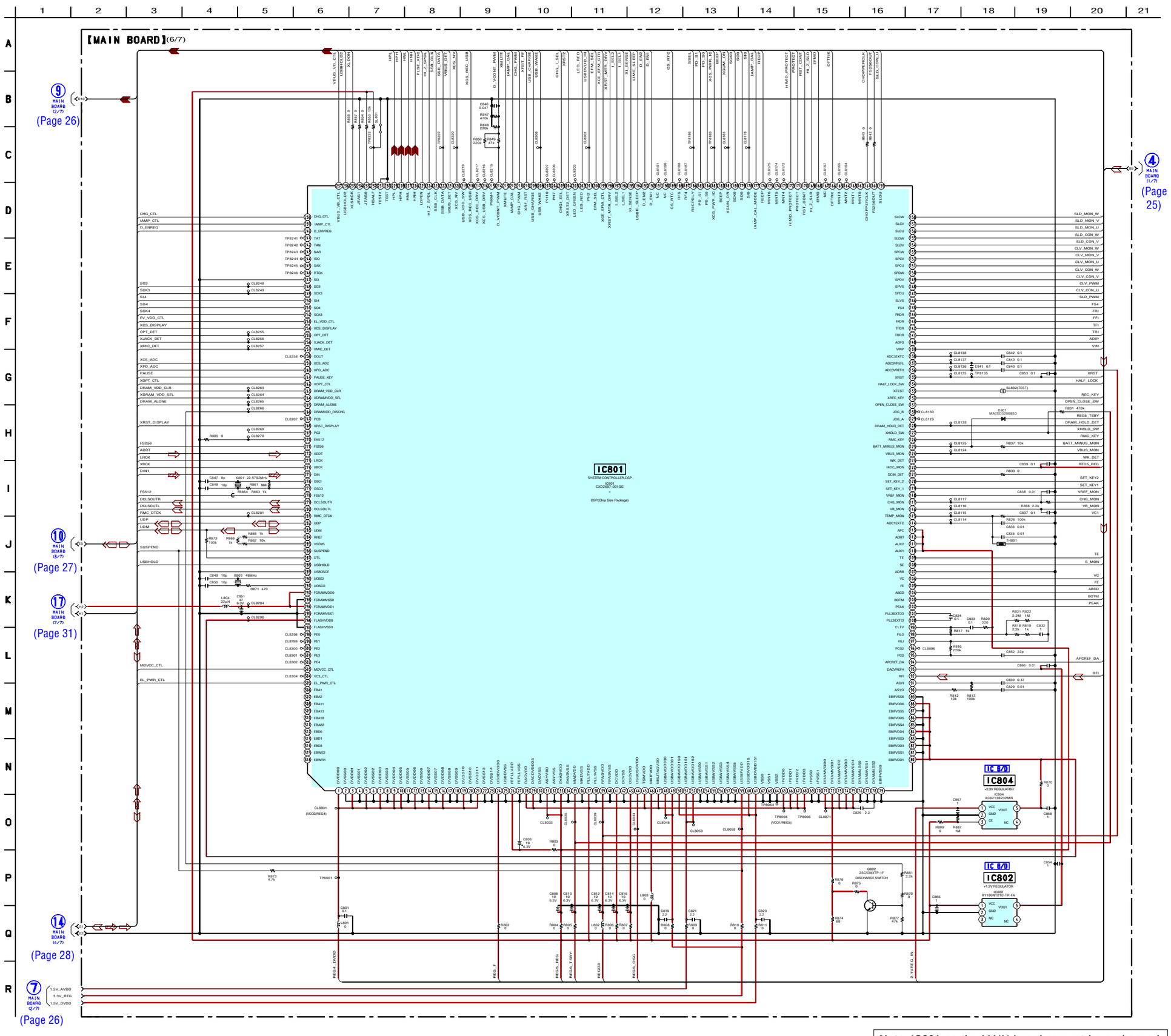


6-8. SCHEMATIC DIAGRAM – MAIN Section (5/7) – • See page 36 for IC Block Diagrams.



6-9. SCHEMATIC DIAGRAM – MAIN Section (6/7) –

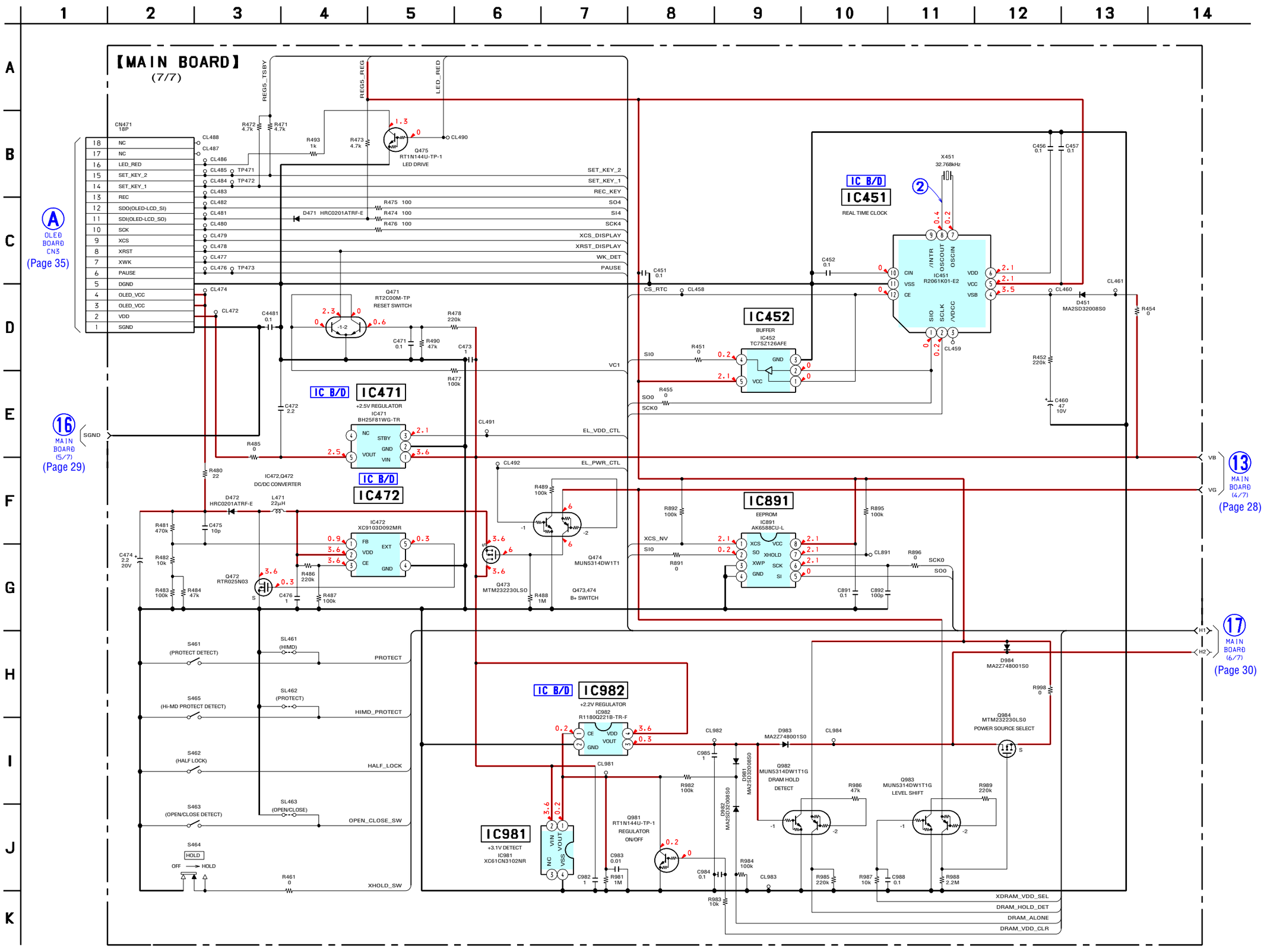
• See page 36 for IC Block Diagrams. • See page 42 for IC Pin Function Description.



Note: IC801 on the MAIN board can not be exchanged alone. When IC801 on the MAIN board is damaged, exchange the complete MAIN board.

6-10. SCHEMATIC DIAGRAM – MAIN Section (7/7) –

• See page 24 for Waveforms. • See page 36 for IC Block Diagrams.

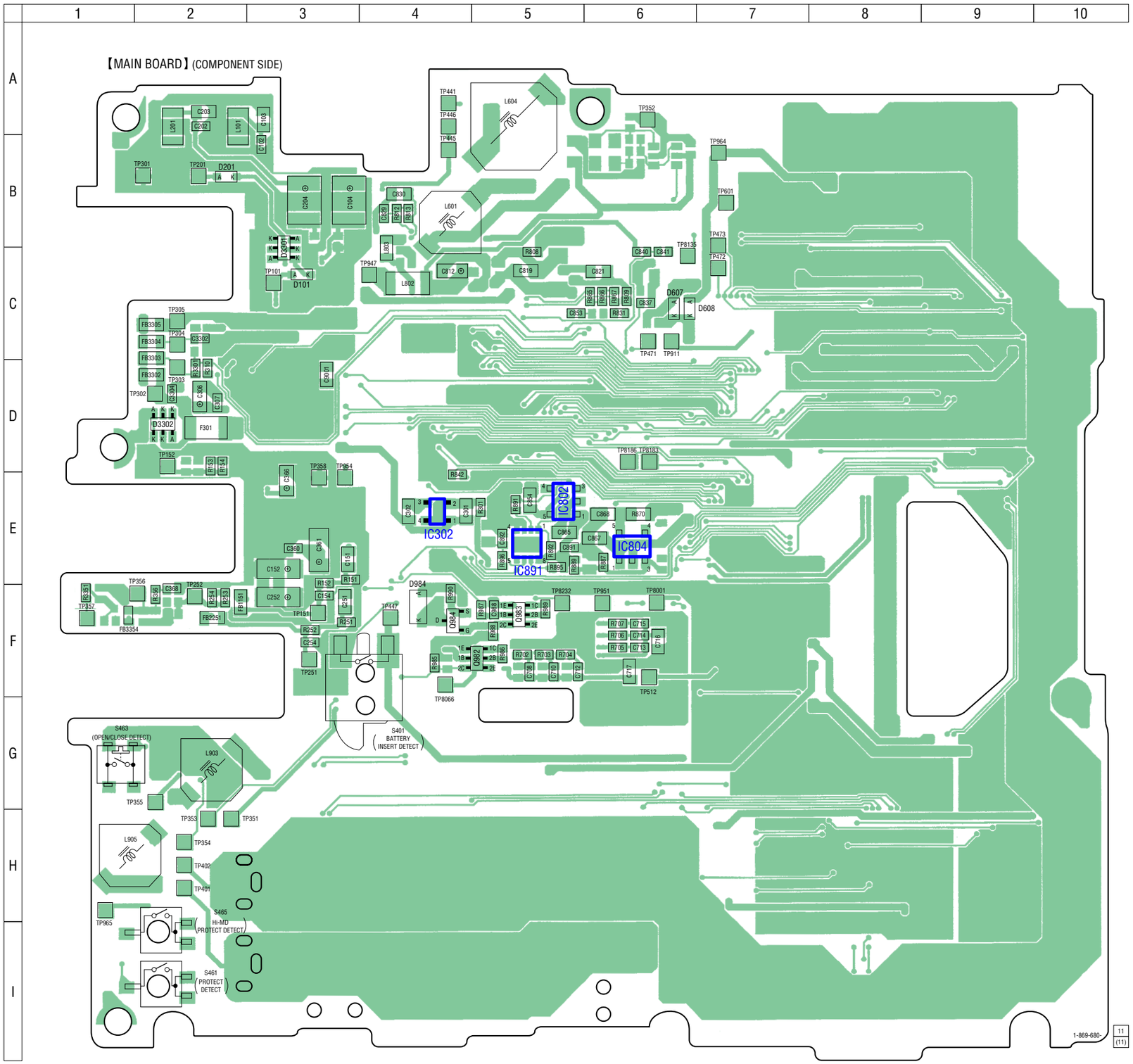


6-11. PRINTED WIRING BOARD – MAIN Board (Component Side) –

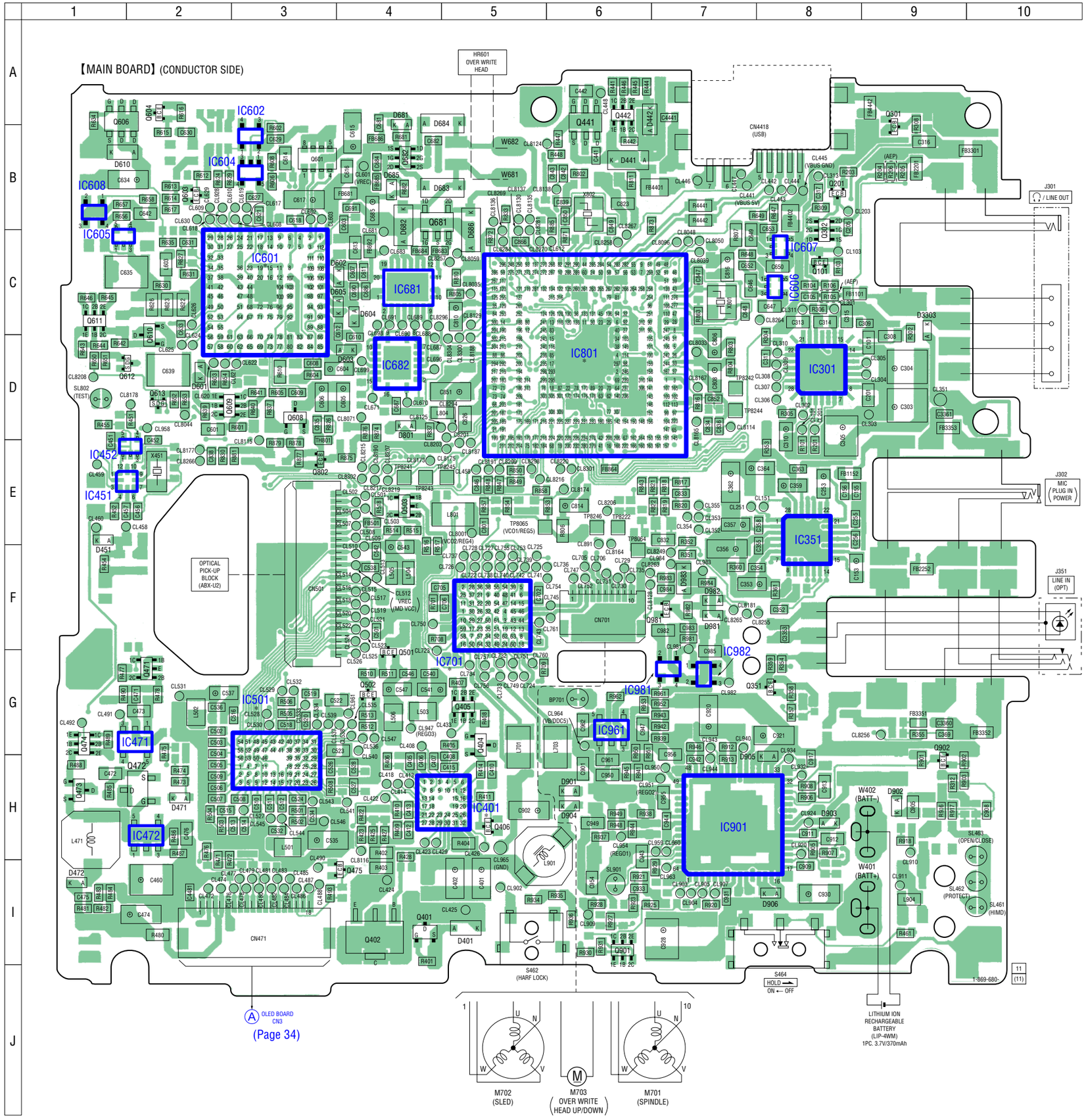
: Uses unleaded solder.

- **Semiconductor Location**

Ref. No.	Location
D101	C-4
D201	C-3
D607	C-6
D608	C-6
D984	F-4
D3301	C-3
D3302	D-2
IC302	E-4
IC802	E-5
IC804	E-6
IC891	E-5
Q982	F-5
Q983	F-5
Q984	F-4



6-12. PRINTED WIRING BOARD – MAIN Board (Conductor Side) – : Uses unleaded solder.



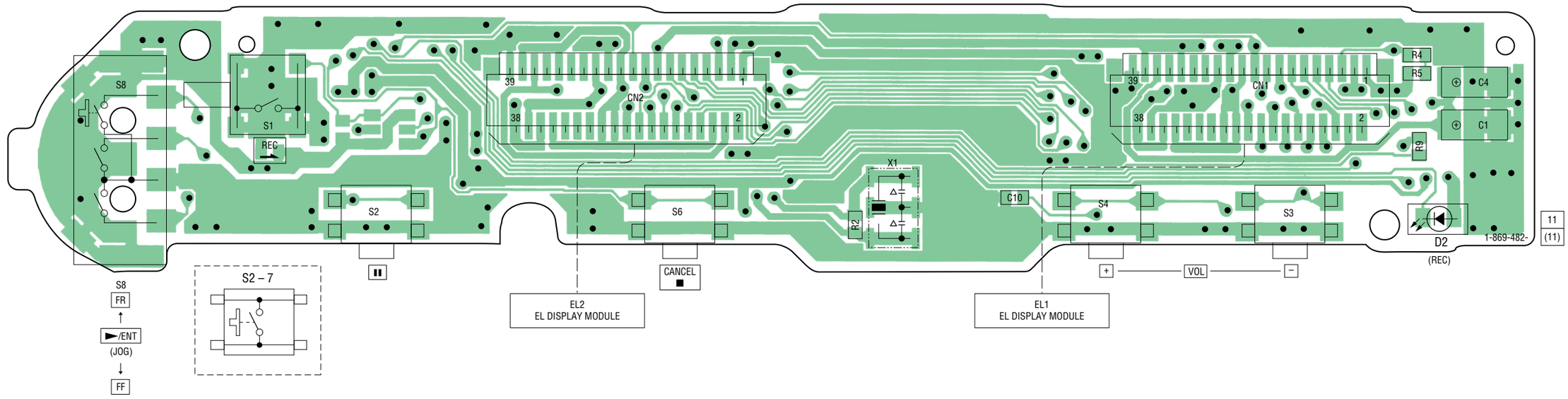
- **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D401	I-5	IC681	C-4
D441	B-6	IC682	D-4
D442	A-6	IC701	F-5
D451	E-1	IC801	D-6
D471	H-2	IC901	H-7
D472	I-1	IC961	G-6
D601	D-2	IC981	G-7
D602	C-4	IC982	G-7
D603	D-4		
D604	C-4	Q101	C-8
D605	C-4	Q201	B-9
D610	B-1	Q301	B-8
D681	A-4	Q302	C-8
D682	B-4	Q351	G-8
D683	B-4	Q401	I-4
D684	A-5	Q402	I-4
D685	B-4	Q404	G-5
D686	C-5	Q405	G-5
D801	D-4	Q406	H-5
D901	H-6	Q441	A-6
D902	H-9	Q442	A-6
D903	H-8	Q471	G-2
D904	H-6	Q472	H-2
D905	H-8	Q473	H-1
D906	I-8	Q474	G-1
D981	F-7	Q475	I-4
D982	F-7	Q501	G-4
D983	F-7	Q502	G-4
D3303	C-9	Q503	E-4
		Q601	B-3
IC301	D-8	Q603	B-2
IC351	E-8	Q604	A-2
IC401	H-5	Q606	A-1
IC451	E-2	Q608	D-3
IC452	E-2	Q609	D-2
IC471	G-2	Q610	D-2
IC472	H-2	Q611	C-1
IC501	H-3	Q612	D-2
IC601	C-3	Q613	D-2
IC602	B-3	Q681	B-4
IC604	B-3	Q682	B-4
IC605	C-1	Q802	E-3
IC606	C-8	Q901	I-6
IC607	C-8	Q902	H-9
IC608	B-1	Q981	F-7

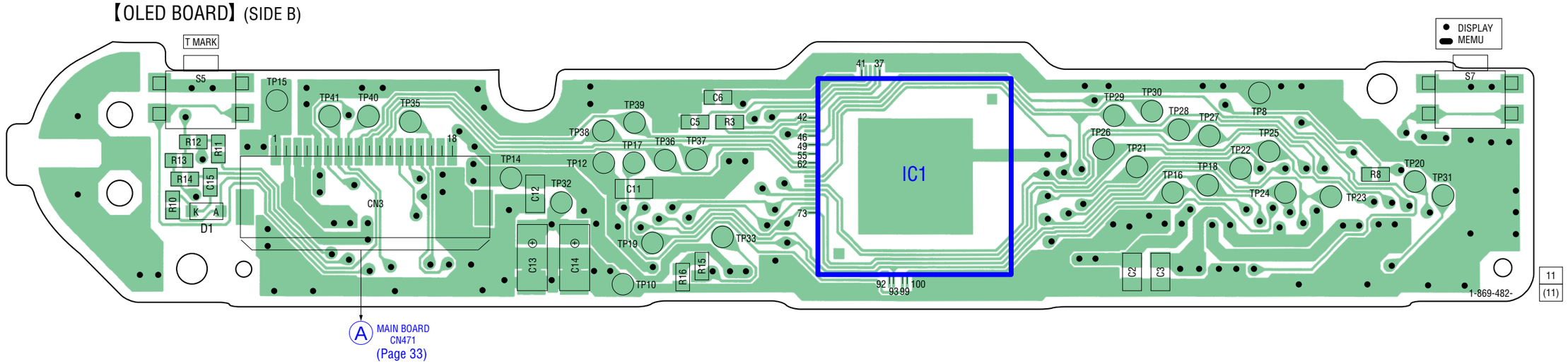
Note: IC801 on the MAIN board can not be exchanged alone. When IC801 on the MAIN board is damaged, exchange the complete MAIN board.

6-13. PRINTED WIRING BOARD – OLED Board – : Uses unleaded solder.

【OLED BOARD】(SIDE A)



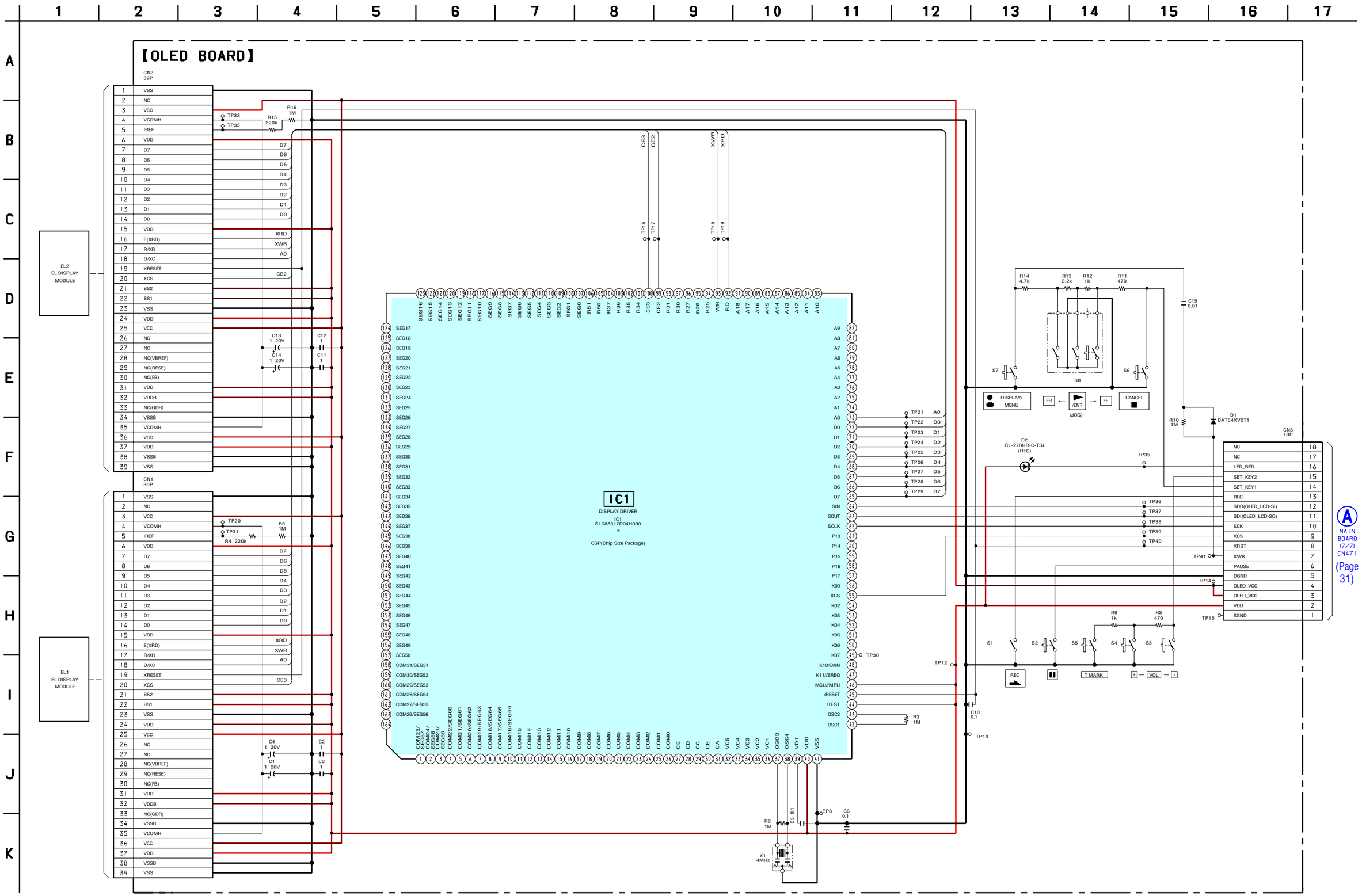
【OLED BOARD】(SIDE B)



Note: IC1 and S8 on the OLED board can not be exchanged alone. When IC1 and S8 on the OLED board are damaged, exchange the complete OLED board.

6-14. SCHEMATIC DIAGRAM – OLED Board –

• See page 42 for IC Pin Function Description.

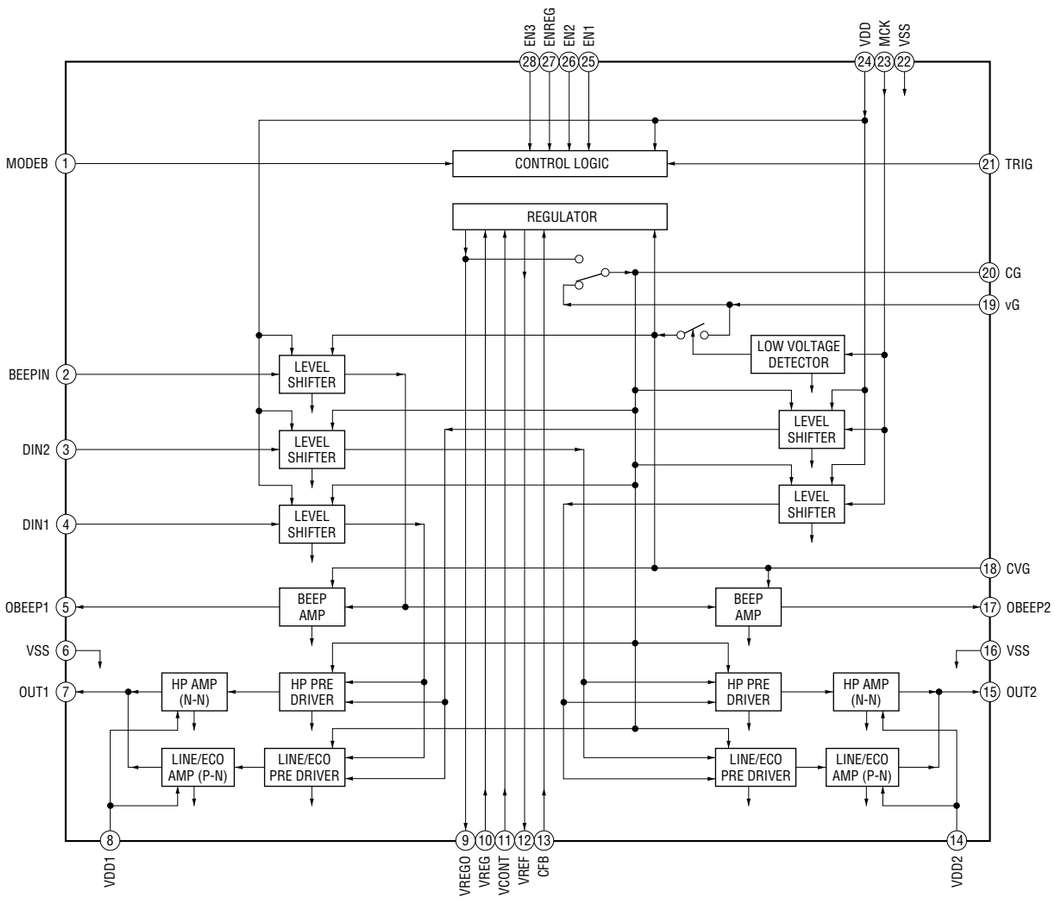


Note: IC1 and S8 on the OLED board can not be exchanged alone. When IC1 and S8 on the OLED board are damaged, exchange the complete OLED board.

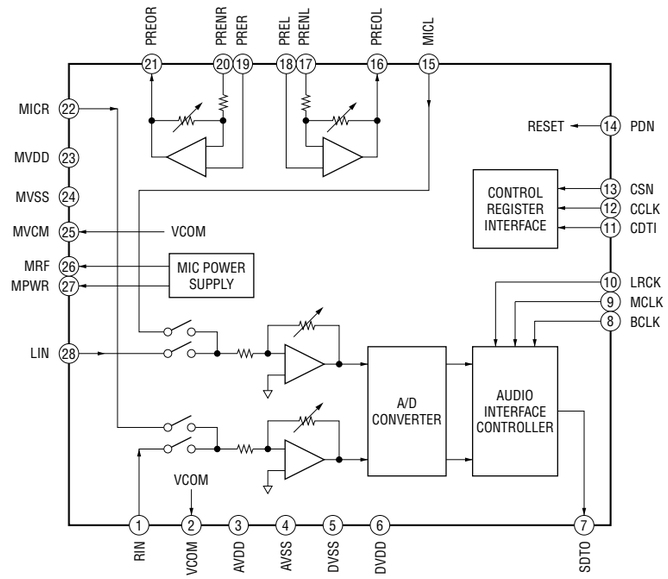
- **IC Block Diagrams**

– MAIN Board –

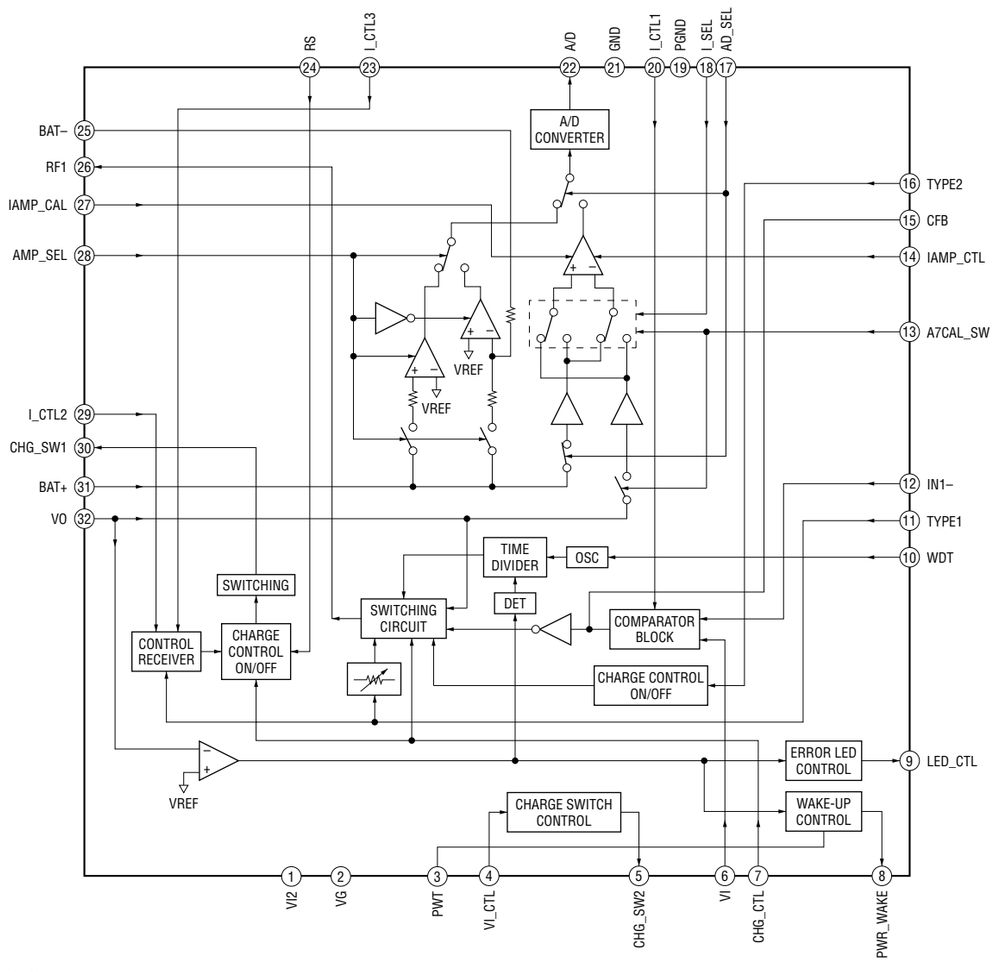
IC301 CXD9847K (TE4)



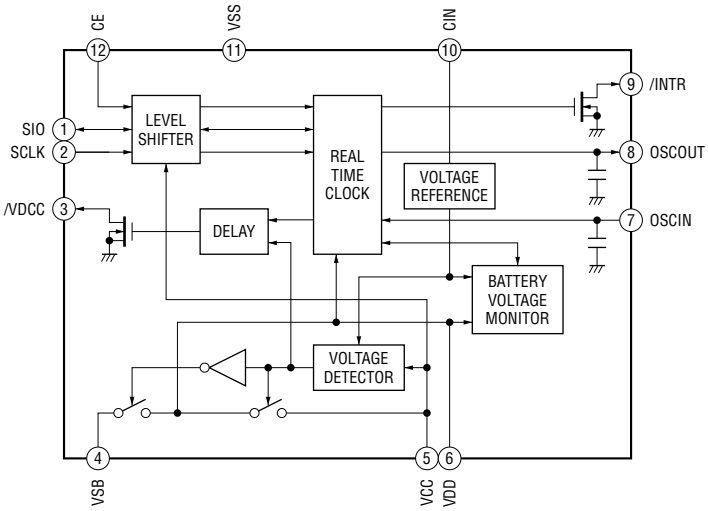
IC351 AK5356VN-L



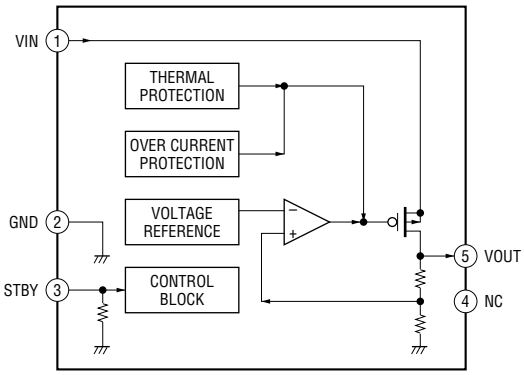
IC401 MM1690LCBE



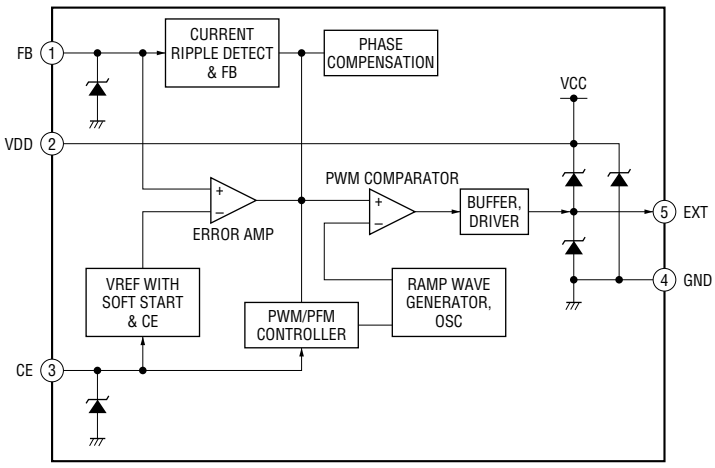
IC451 R2061K01-E2



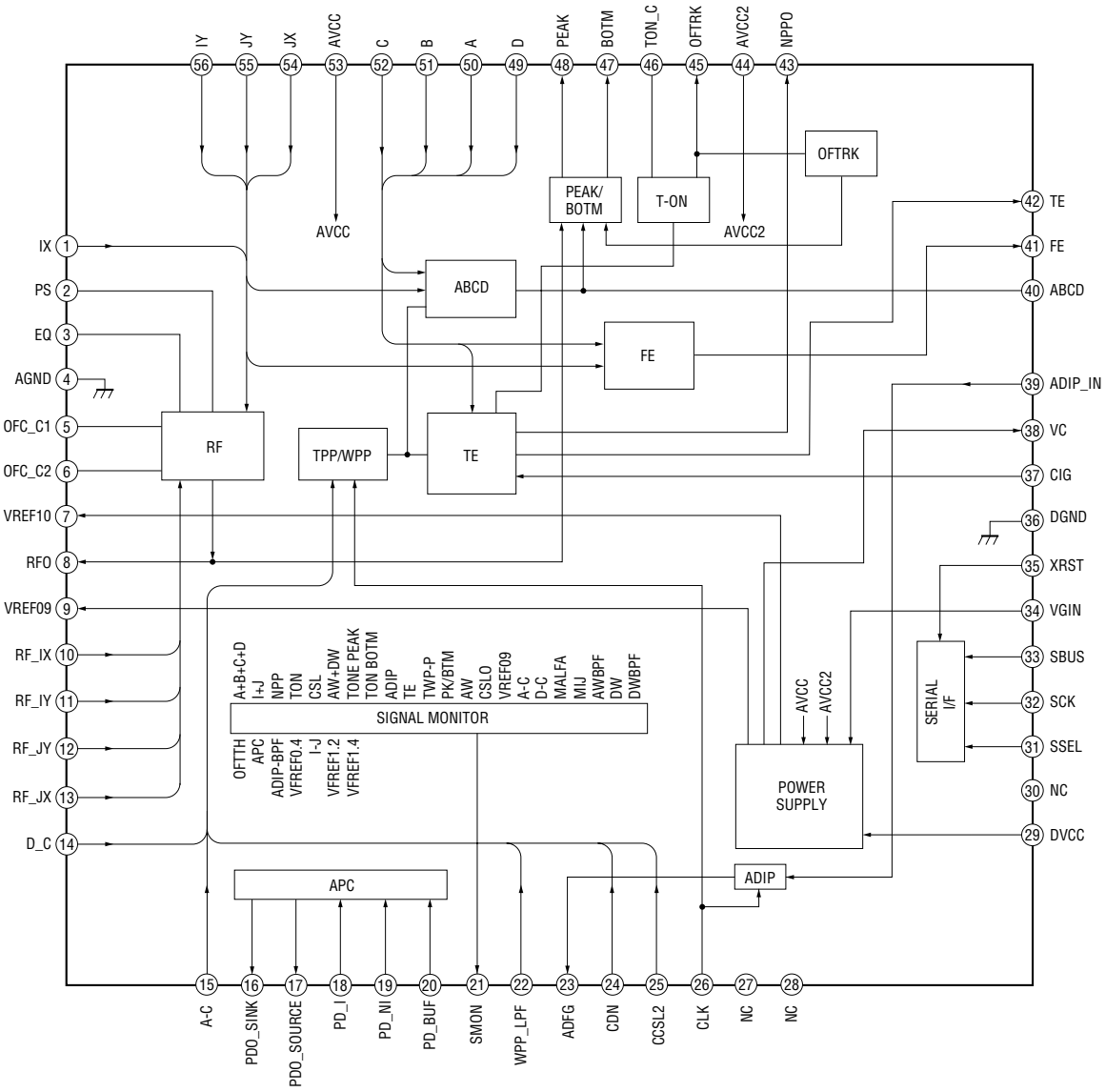
IC471 BH25FB1WG-TR



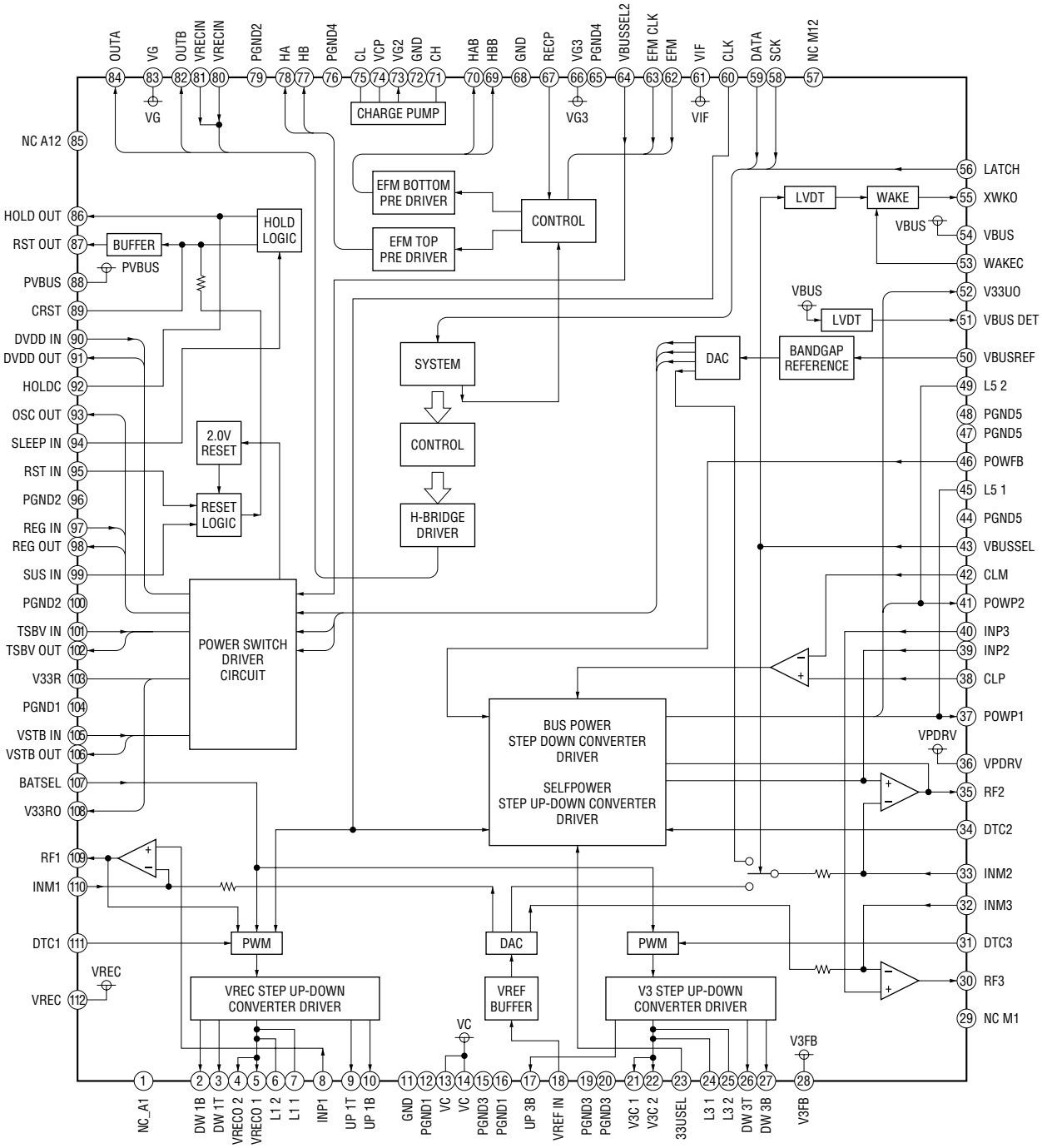
IC472 XC9103D092MR



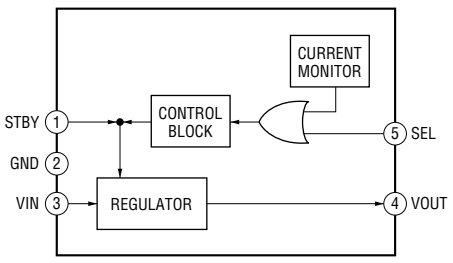
IC501 SN761060ZQLR



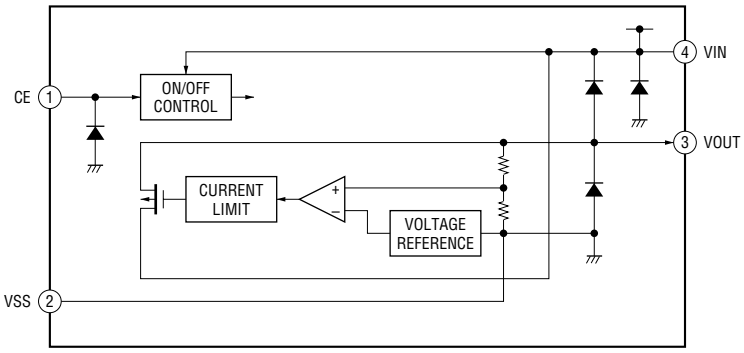
IC601 SC901583VAR2



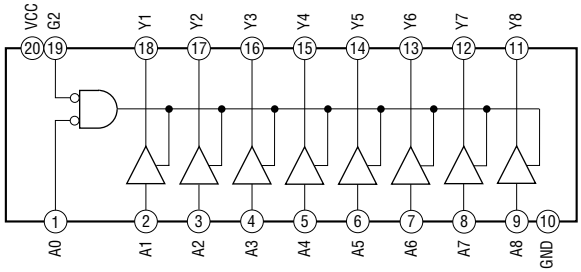
IC605 BH12PB1WHFV-TR
IC606 BH15PB1WHFV-TR
IC607 BH33PB1WHFV-TR



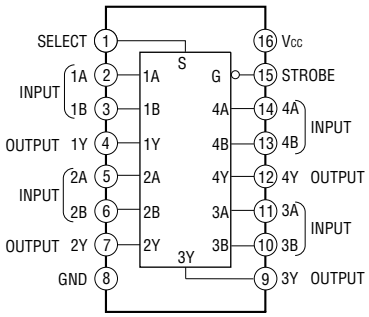
IC608 XC6213B152NR



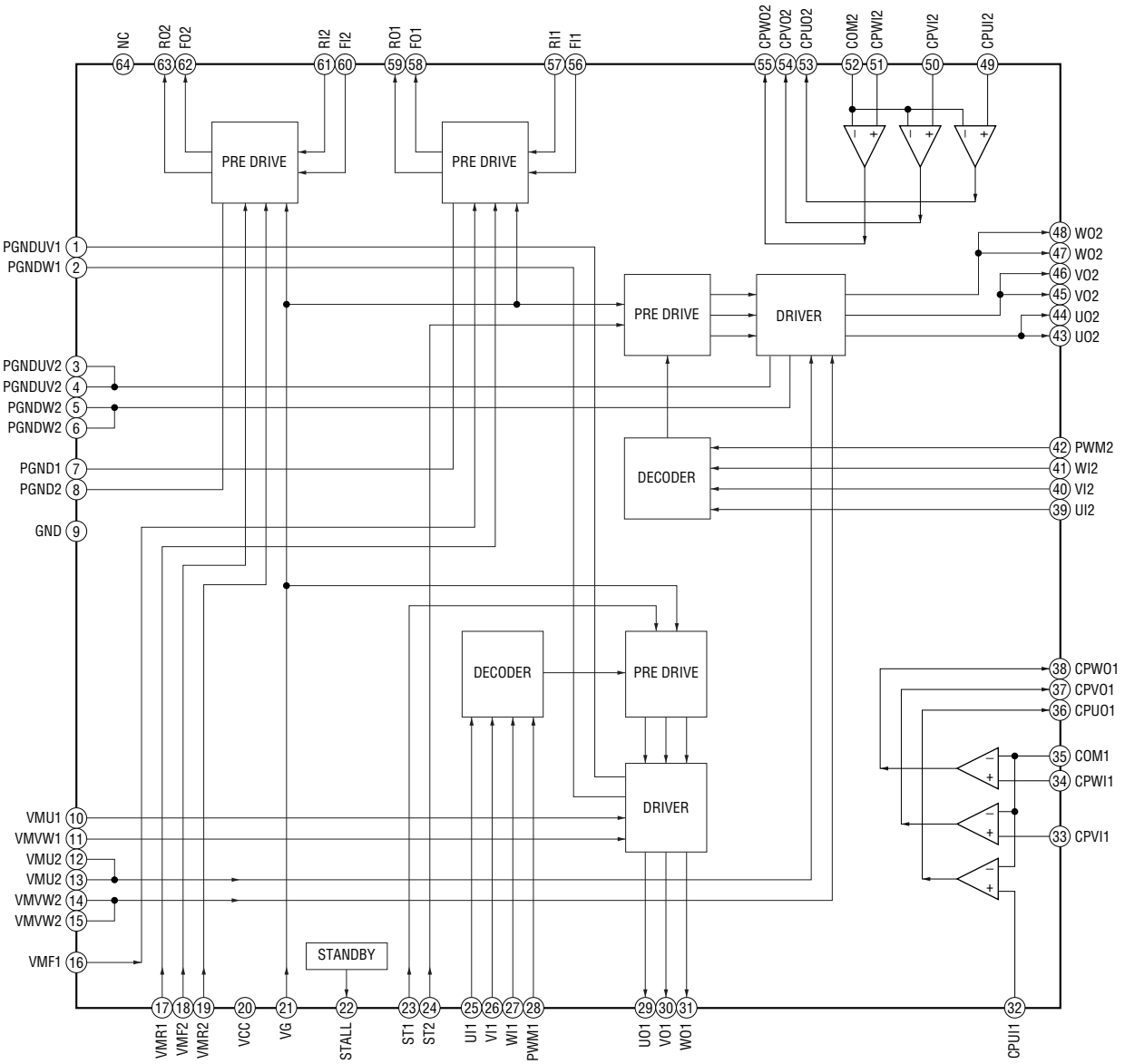
IC681 SN74LVC541ARGYR



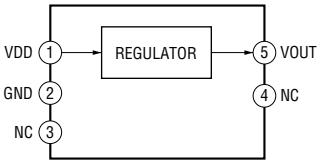
IC682 SN74LVC547ARGYR



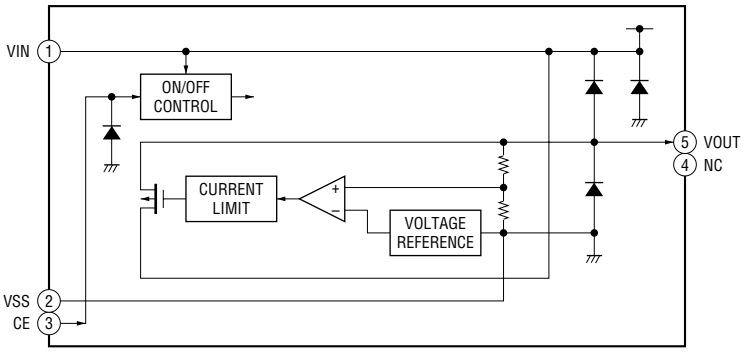
IC701 BD6608GLV-E2



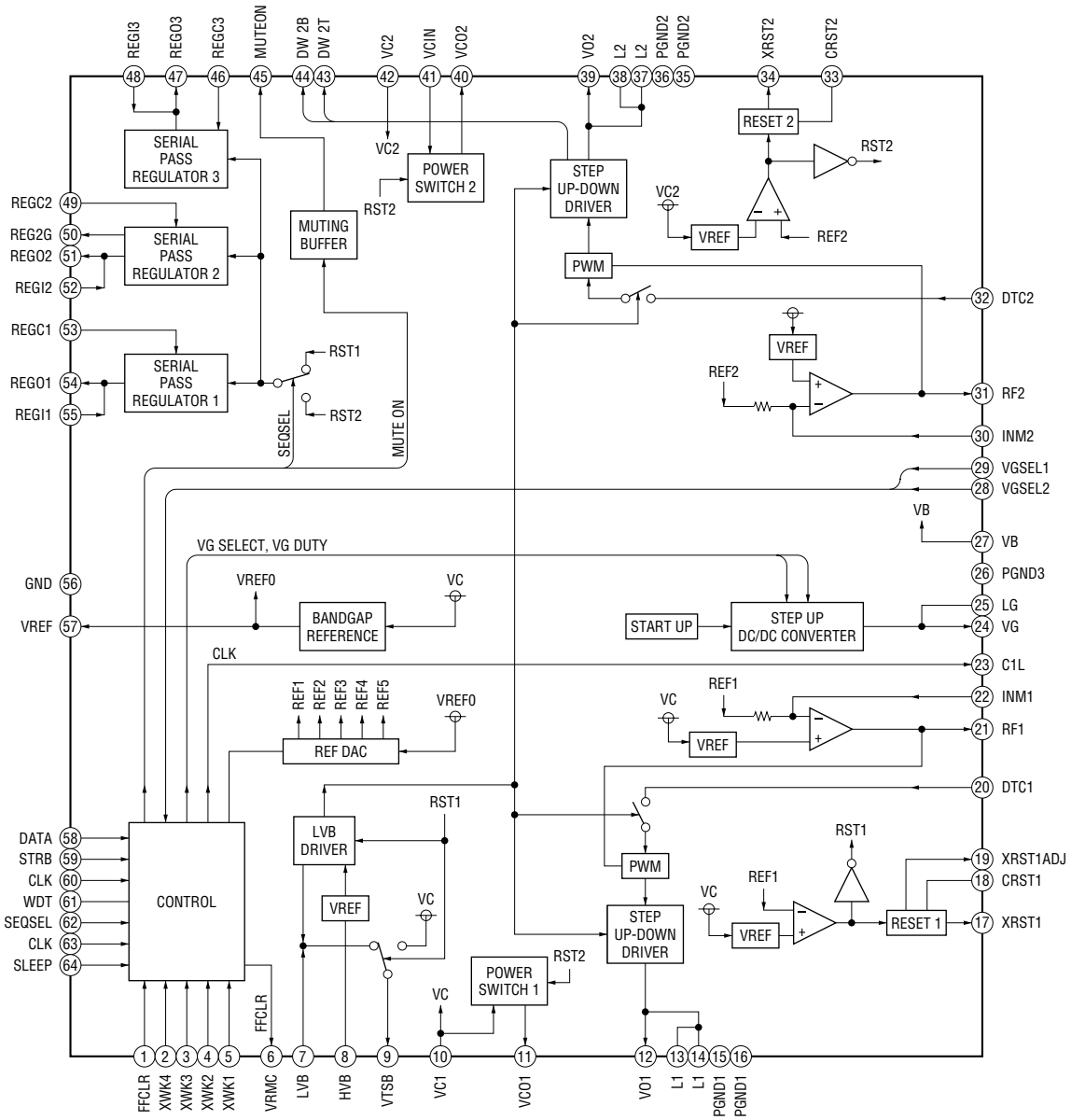
IC802 R1180N121C-TR-FA



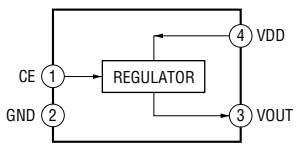
IC804 XC6213B232MR
IC961 XC6213B312MR



IC901 SC901584EPR2



IC982 R1180Q221B-TR-FA



- **IC PIN FUNCTION DESCRIPITION**

MAIN BOARD IC801 CXD2687-001GG (SYSTEM CONTROLLER, DSP)

Pin No.	Pin Name	I/O	Description
1	DVDD00	-	Power supply terminal (for internal core)
2	DVSS00	-	Ground terminal (for internal core)
3	DVDD01	-	Power supply terminal (for internal core)
4	DVSS01	-	Ground terminal (for internal core)
5	DVDD02	-	Power supply terminal (for internal core)
6	DVSS02	-	Ground terminal (for internal core)
7	DVDD03	-	Power supply terminal (for internal core)
8	DVSS03	-	Ground terminal (for internal core)
9	DVDD04	-	Power supply terminal (for internal core)
10	DVDD05	-	Power supply terminal (for internal core)
11	DVSS05	-	Ground terminal (for internal core)
12	DVDD06	-	Power supply terminal (for internal core)
13	DVSS06	-	Ground terminal (for internal core)
14	DVDD07	-	Power supply terminal (for internal core)
15	DVSS07	-	Ground terminal (for internal core)
16	DVDD08	-	Power supply terminal (for internal core)
17	DVSS08	-	Ground terminal (for internal core)
18	DVSS09	-	Ground terminal (for internal core)
19	DVDD10	-	Power supply terminal (for internal core)
20	DVSS10	-	Ground terminal (for internal core)
21	DVDD11	-	Power supply terminal (for internal core)
22	DVSS13	-	Ground terminal (for internal core)
23	DVSS14	-	Ground terminal (for internal core)
24	USBDVDD0	-	Power supply terminal (for USB core)
25	USBDVSS	-	Ground terminal (for USB core)
26	FEPLLVDD	-	Power supply terminal (for PLL)
27	FEPLLVSS	-	Ground terminal (for PLL)
28	DACVDD	-	Power supply terminal (for D/A converter)
29	DACDVDD25	-	Power supply terminal (for D/A converter)
30	DACVSS	-	Ground terminal (for D/A converter)
31	ASYVDD	-	Power supply terminal (for asymmetry correction cell)
32	ASYVSS	-	Ground terminal (for asymmetry correction cell)
33	SVADVDD	-	Power supply terminal (for A/D converter)
34	SVADVSS	-	Ground terminal (for A/D converter)
35	MADVDD	-	Power supply terminal (for A/D converter)
36	MADVSS	-	Ground terminal (for A/D converter)
37	PLL1VDD	-	Power supply terminal (for PLL)
38	PLL1VSS	-	Ground terminal (for PLL)
39	RFADVDD	-	Power supply terminal (for A/D converter)
40	RFADVSS	-	Ground terminal (for A/D converter)
41	DCVDD	-	Power supply terminal (for D class)
42	DCVSS	-	Ground terminal (for D class)
43	OSCVDD	-	Power supply terminal (for OSC)
44	USBOSCVDD	-	Ground terminal (for OSC)
45	TSMVDD	-	Power supply terminal (for the TSB master communication)
46	MAIFVDD	-	Power supply terminal (for MA interface)

Pin No.	Pin Name	I/O	Description
47	MSJTAGVDD	-	Power supply terminal (for MS interface and JTAG)
48	USBAVDD330	-	Power supply terminal (for USB)
49	USBAVDD331	-	Power supply terminal (for USB)
50 to 52	USBAVDD150 to USBAVDD152	-	Power supply terminal (for USB)
53 to 58	USBAVSS0 to USBAVSS5	-	Ground terminal (for USB)
59	USBIFVDD	-	Power supply terminal (for USB interface)
60	USBDVDD15	-	Power supply terminal (for USB)
61	USBDVDD151	-	Power supply terminal (for USB)
62 to 64	VSS0 to VSS2	-	Power supply terminal (for OSC, USB OSC, TSB master communication, MS interface, MA interface, JTAG and USB interface)
65 to 68	IFVDD0 to IFVDD3	-	Power supply terminal (for interface)
69, 70	IFVSS0, IFVSS1	-	Ground terminal (for interface)
71 to 75	DRAMVDD0 to DRAMVDD4	-	Power supply terminal (for D-RAM interface)
76 to 78	DRAMVSS0 to DRAMVSS2	-	Ground terminal (for D-RAM interface)
79	EBIFVSS0	-	Ground terminal (for external flash memory bus interface)
80	EBIFVDD1	-	Power supply terminal (for external flash memory bus interface)
81	EBIFVSS1	-	Ground terminal (for external flash memory bus interface)
82	EBIFVDD3	-	Power supply terminal (for external flash memory bus interface)
83	EBIFVSS3	-	Ground terminal (for external flash memory bus interface)
84	EBIFVDD4	-	Power supply terminal (for external flash memory bus interface)
85	EBIFVSS4	-	Ground terminal (for external flash memory bus interface)
86	EBIFVDD5	-	Power supply terminal (for external flash memory bus interface)
87	EBIFVSS5	-	Ground terminal (for external flash memory bus interface)
88	EBIFVDD6	-	Power supply terminal (for external flash memory bus interface)
89	EBIFVSS6	-	Ground terminal (for external flash memory bus interface)
90	ASYO	O	Playback EFM duplex signal output terminal
91	ASYI	I	Playback EFM comparator slice level input terminal
92	RFI	I	Playback EFM RF signal input from the RF amplifier
93	DACVREFH	I	Reference voltage input terminal
94	APCREF_DA	O	Reference voltage output to the RF amplifier
95	PCO	O	Phase comparison output terminal for the playback EFM system master PLL
96	PCO2	O	Phase comparison output terminal for the current type Not used
97	FILI	I	Filter input terminal for the playback EFM system master PLL
98	FILO	O	Filter output terminal for the playback EFM system master PLL
99	CLTV	I	Internal VCO control voltage input terminal for the playback EFM system master PLL
100	PLL3EXTCI	I	Connection terminal for an external capacitor
101	PLL3EXTCO	O	Connection terminal for an external capacitor
102	PEAK	I	Peak hold signal input of the light amount signal (RF/ABCD) the RF amplifier
103	BOTM	I	Bottom hold signal input of the light amount signal (RF/ABCD) the RF amplifier
104	ABCD	I	Light amount signal (ABCD) input from the RF amplifier
105	FE	I	Focus error signal input from the RF amplifier
106	VC	I	Middle point voltage input from the RF amplifier
107	ADRB	I	A/D converter the lower limit voltage input terminal

Pin No.	Pin Name	I/O	Description
108	SE	I	Sled error signal input from the RF amplifier
109	TE	I	Tracking error signal input from the RF amplifier
110, 111	AUX1, AUX2	I	Auxiliary A/D input terminal Not used
112	ADRT	I	The upper limit voltage of A/D converter input terminal
113	APC	I	Error signal input terminal for the laser automatic power control Not used
114	ADC1EXTC	-	Connection terminal for an external capacitor (for A/D converter)
115	TEMP_MON	I	Thermistor connection terminal for temperature detection
116	VB_MON	I	Monitor input terminal of rechargeable battery power supply voltage (UNREG)
117	CHG_MON	I	Charge or discharge current monitor input from power control IC
118	VREF_MON	I	Reference voltage monitor input from the RF amplifier
119, 120	SET_KEY_1, SET_KEY_2	I	Set key input terminal (A/D input)
121	DCIN_DET	I	Monitor input terminal of DC input voltage for battery charge Not used
122	HIDC_MON	I	Monitor input terminal of High DC voltage
123	WK_DET	I	Detection terminal of panel key input for system wake up
124	VBUS_MON	I	Monitor input terminal of USB power supply voltage (VBUS)
125	BATT_MINUS_MON	I	Monitor input terminal of battery minus terminal
126	RMC_KEY	I	Remote commander key input terminal (A/D input)
127	XHOLD_SW	I	HOLD switch input terminal
128	DRAM_HOLD_DET	I	Detection terminal for internal D-RAM power supply information keeping
129	JOG_A	I	Jog dial pulse input terminal (A phase) Not used
130	JOG_B	I	Jog dial pulse input terminal (B phase) Not used
131	OPEN_CLOSE_SW	I	Top panel open/close detection switch input terminal
132	XREC_KEY	I	REC key input terminal
133	XTEST	I	Input terminal for the test mode setting "L": test mode
134	HALF_LOCK_SW	I	Top panel open switch detection terminal
135	XRST	I	System reset signal input terminal
136	ADC3VREFH	I	Reference voltage input terminal (High voltage)
137	ADC3VREFL	I	Reference voltage input terminal (Low voltage)
138	ADC3EXTC	O	Connection terminal for an external capacitor (for A/D converter)
139	VINP	I	RF signal input from the RF amplifier
140	ADFG	I	ADIP duplex FM signal (19.05kHz to 21.05 kHz) input from the RF amplifier
141	TRDR	O	Tracking servo drive PWM signal output (-) to the coil driver
142	TFDR	O	Tracking servo drive PWM signal output (+) to the coil driver
143	FFDR	O	Focus servo drive PWM signal output (+) to the coil driver
144	FRDR	O	Focus servo drive PWM signal output (-) to the coil driver
145	FS4	O	176.4 kHz clock signal output to the over write head driver and power control IC
146	SLVS	O	Sled servo drive PWM signal output to the motor driver
147	SPDU	O	Spindle motor drive control signal output (U) to the motor driver
148	SPVS	O	Spindle servo drive PWM signal output to the motor driver
149	SPDV	O	Spindle motor drive control signal output (V) to the motor driver
150	SPDW	O	Spindle motor drive control signal output (W) to the motor driver
151	SPCU	I	Spindle motor drive comparison signal input (U) from the motor driver
152	SPCV	I	Spindle motor drive comparison signal input (V) from the motor driver

Pin No.	Pin Name	I/O	Description
153	SPCW	I	Spindle motor drive comparison signal input (W) from the motor driver
154	SLDV	O	Sled motor drive control signal output (V) to the motor driver
155	SLDW	O	Sled motor drive control signal output (W) to the motor driver
156	SLCU	I	Sled motor drive comparison signal input (U) from the motor driver
157	SLCV	I	Sled motor drive comparison signal input (V) from the motor driver
158	SLCW	I	Sled motor drive comparison signal input (W) from the motor driver
159	SLDU	O	Sled motor drive control signal output (U) to the motor driver
160	FS256OUT	O	11.2896 MHz clock output to the RF amplifier
161	CHOPPERCLK	O	Clock signal output for chopper to the over write head driver
162 to 165	MNT0 to MNT3	O	Monitor output terminal for DSP Not used
166	OFTRK	I/O	Tracking signal input/output for MD3
167	NC	-	Not used
168	EFMO	O	EFM encode data output for the recording to the over write head driver
169	HI_Z_SLD	O	Standby signal output for the sled motor to the motor driver
170	RST_CONT	O	Reset signal output to the power control IC
171	PROTECT	I	Recording protector for normal disc detection switch input terminal
172	HIMD_ PROTECT	I	Recording protector for Hi-MD disc detection switch input terminal
173 to 175	MNT4 to MNT6	O	Monitor output terminal for DSP Not used
176	RECP	O	Laser power selection signal output to the power control IC
177	IAMP_CAL_ MODE	O	Current sensing amplifier short switch control signal output terminal
178	SI0	I	Serial data input from the real time clock, EEPROM and power control IC
179	SO0	O	Serial data output to the real time clock, EEPROM and power control IC
180	SCK0	O	Serial data transfer clock signal output to the real time clock, EEPROM and power control IC
181	XGUM_ON	I	Rechargeable battery insert detection switch input terminal
182	BEEP	O	Beep sound control signal output to the headphone amplifier
183	XCS_PWR_IC	O	Chip select signal output to the power control IC
184, 185	PD_S0, PD_S1	O	PD IC mode selection signal output to the optical pick-up block
186	RECPDLY	O	Internal setting selection signal output to the RF amplifier
187, 188	RF4, RF5	-	Not used
189	CS_RTC	O	Chip select signal output to the real time clock
190, 191	NC	-	Not used
192, 193	D_EN1, D_EN2	O	Headphone/LINE/beep selection signal output to the headphone amplifier
194	USBIC_SLEEP	O	USB suspend notice signal output to the power control IC
195	XI_SENSE	O	Current limit circuit control signal output terminal when adapter is used "L": charge
196, 197	I_SEL1, I_SEL2	O	Charge current control signal output terminal H: low current charge
198	XRST_MTR_ DRV	O	Reset signal output to the motor driver
199	XCE_EFM_CTL	O	EFM output selection enable signal output terminal
200	EFM_SEL	O	EFM output selection signal output terminal
201	PH2	O	Power supply on/off control signal output terminal for the USB
202	LED_RED	O	Recording indication LED drive signal output terminal
203	LED_GREEN	-	Not used
204	XRST2_DET	I	Reset signal input from the power control IC
205	CHGI_SEL	O	Charge/discharge control signal output for current detection amplifier to the charge control IC
206, 207	PH7, PH10	-	Not used
208	USB_WAKE	O	System wake up signal output terminal by USB connection

Pin No.	Pin Name	I/O	Description
209	USB_CHARGE	O	USB charge control signal output terminal
210	XRF_RST	O	Reset signal output to the RF amplifier
211	CHG_PWM	O	Charge current or voltage control signal output to the charge control IC
212	IAMP_CAL	O	Offset signal output for current detection amplifier to the charge control IC
213	XMUTE	O	Muting on/off control signal output terminal
214	D_VCONT_ PWM	O	Voltage control signal output to the headphone amplifier
215	PWM4	-	Not used
216	XCS_USB_DRV	-	Not used
217	XCS_REC_DRV	-	Not used
218	XCS_REC_USB	O	Chip select signal output to the power control IC
219	USB_VDD_SW	-	Not used
220	XCS_NV	O	Chip select signal output to the EEPROM
221	VBUS_DET	I	Detection terminal of USB power supply
222	SSB_DATA	I/O	SSB data input/output with the RF amplifier
223	SSB_CLK	O	SSB clock output to the RF amplifier
224	HI_Z_SPDL	O	Standby signal output for the spindle motor to the motor driver
225	LDPEN	O	Pulse/DC light-emit selection signal output to the optical pick-up block
226 to 229	HNH, HNL, HPH, HPL	O	EFM encode data output for the recording to the over write head driver
230, 231	TEST, TEST2	I	Input terminal for the test Not used
232	HSALF	I	Setting terminal
233, 234	JTAG0, JTAG1	I/O	Setting terminal
235	XLSRCK	O	Pulse output for laser strobe recording to the optical pick-up
236	USBHOLD2	I	Detection terminal of USB power supply
237	VBUS_VB_CTL	O	USB power supply control signal output terminal
238	CHG_CTL	O	Constant current circuit control signal output to the charge control IC
239	IAMP_CTL	O	Current sense amplifier control signal output to the charge control IC
240	D_ENVREG	O	Internal power supply on/off control signal output to the headphone amplifier
241	TAT	I	Not used
242	TAN	I	Not used
243	NAR	I	Not used
244	IDO	I	Not used
245	SAK	O	Not used
246	RTCK	O	Not used
247	SI3	I	Serial data output terminal Not used
248	SO3	O	Serial data output to the A/D converter
249	SCK3	O	Serial data transfer clock signal output to the A/D converter
250	SI4	I	Serial data input from the display driver IC
251	SO4	O	Serial data output to the display driver IC
252	SCK4	O	Serial data transfer clock signal output to the display driver IC
253	EL_VDD_CTL	O	EL power supply on/off control signal output terminal
254	XCS_DISPLAY	O	Chip select signal output to the display driver IC
255	OPT_DET	I	Optical digital input plug detection signal input terminal "H": optical in
256	XJACK_DET	I	Line input plug detection signal input terminal "L": plug in
257	XMIC_DET	I	Microphone input plug detection signal input terminal "L": plug in
258	DOUT	O	Not used
259	XCS_ADC	O	Chip select signal output to the A/D converter

Pin No.	Pin Name	I/O	Description
260	XPD_ADC	O	Power control signal output to the A/D converter
261	PAUSE_KEY	I	Pause key input terminal
262	XOPT_CTL	O	Power supply on/off control signal output terminal for the optical input jack
263	DRAM_VDD_CLR	O	Internal D-RAM power supply latch clear signal output for quick mode sleep
264	XDRAMVDD_SEL	O	Power supply control signal output terminal for the FCRAM
265	DRAM_ALONE	O	Power on/off control signal output terminal for internal D-RAM
266	DRAMVDD_DISCHG	O	Power supply discharge control signal output terminal for internal D-RAM
267	PCB	-	Not used
268	XRST_DISPLAY	O	Reset signal output to the display driver IC
269	PC2	-	Not used
270	EX512	-	Not used
271	FS256	O	Master clock signal (256Fs=11.2896 MHz) output to A/D converter
272	ADDT	I	Data input from A/D converter
273	LRCK	O	L/R sampling clock signal (44.1kHz) output to external A/D converter
274	XBCK	O	Bit clock (2.8224 MHz) output to the external A/D converter
275	DIN	I	Digital audio signal input terminal
276	OSCI	I	Main system clock input terminal (22.5792 MHz)
277	OSCO	O	Main system clock output terminal (22.5792 MHz)
278	FS512	O	Clock signal (512Fs=22.5792 MHz) output to the headphone amplifier
279	DCLSOUTR	O	PWM modulator signal output to the headphone amplifier (R-CH)
280	DCLSOUTL	O	PWM modulator signal output to the headphone amplifier (L-CH)
281	RMC_DTCK	I/O	TSB master data clock input/output or SSB data input/output with the remote commander
282	UDP	I/O	USB data (+) input/output terminal
283	UDM	I/O	USB data (-) input/output terminal
284	RREF	I	Connection terminal for an external resistor
285	VSENS	I	Connection terminal for an external resistor
286	SUSPEND	O	USB suspend signal output to the power control IC
287	DTL	O	USB pull-up resistor connection control terminal
288	USBHOLD	I	USB power supply separation signal input from the power control IC
289	USBOSCE	I	Not used
290	UOSCI	I	USB system clock input terminal (48 MHz) (for USB oscillation circuit)
291	UOSCO	O	USB system clock output terminal (48 MHz) (for USB oscillation circuit)
292	FCRAMVDD0	-	Power supply terminal (FCRAM system)
293	FCRAMVSS0	-	Ground terminal (for FCRAM)
294	FCRAMVDD1	-	Power supply terminal (FCRAM system)
295	FCRAMVSS1	-	Ground terminal (for FCRAM)
296	FLASHVDD0	-	Power supply terminal (for FLASH)
297	FLASHVSS0	-	Ground terminal (for FLASH)
298 to 302	PE0 to PE4	-	Not used
303	MDVCC_CTL	O	Power supply control signal output terminal for the optical pick-up block
304	VC3_CTL	O	Power supply control signal output terminal Not used
305	EL_PWR_CTL	O	EL power supply on/off control signal output terminal
306	EBA1	-	Not used
307	EBA2	-	Not used
308	EBA11	-	Not used

Pin No.	Pin Name	I/O	Description
309	EBA13	-	Not used
310	EBA18	-	Not used
311	EBA22	-	Not used
312	EBD0	-	Not used
313	EBD1	-	Not used
314	EBD3	-	Not used
315	EBWE2	-	Not used
316	EBWR1	-	Not used

OLED BOARD IC1 S1C88317D04H000 (DISPLAY DRIVER IC)

Pin No.	Pin Name	I/O	Description
1 to 10	COM25/SEG57 to COM16/SEG66	-	Not used
11 to 26	COM15 to COM0	-	Not used
27 to 31	CE to CA	-	Not used
32 to 36	VC5 to VC1	-	Not used
37	OSC3	I	System clock input terminal (4 MHz)
38	OSC4	O	System clock output terminal (4 MHz)
39	VD1	O	Constant voltage output terminal for oscillation
40	VDD	-	Power supply terminal (+2.5V)
41	VSS	-	Ground terminal
42	OSC1	I	OSC1 clock signal input terminal
43	OSC2	O	OSC1 clock signal output terminal
44	/TEST	I	Input terminal for the test Fixed at "H" in this set
45	/RESET	I	Reset signal input from the system controller
46	MCU//MPU	I	MCU mode/MPU mode setting terminal "H": MCU mode, "L": MPU mode Fixed at "H" in this set
47	K11//BREQ	-	Not used
48	K10/EVIN	-	Not used
49 to 54	K07 to K02	-	Not used
55	XCS	I	Chip select signal input from the system controller
56	K00	-	Not used
57 to 61	P17 to P13	-	Not used
62	SCLK	I	Serial data transfer clock signal input from the system controller
63	SOUT	O	Serial data output to the system controller
64	SIN	I	Serial data input from the system controller
65 to 72	D7 to D0	O	Serial data output to the EL display module
73	A0	O	Address signal output to the EL display module
74 to 91	A1 to A18	I	Address signal output terminal Not used
92	RD	O	Read strobe signal output to the EL display module
93	WR	O	Write enable signal output to the EL display module
94 to 98	R25 to R27, R30, R31	-	Not used
99, 100	CE2, CE3	O	Chip enable signal output to the EL display module
101 to 106	R34 to R37, R50, R51	-	Not used
107 to 157	SEG0 to SEG50	-	Not used
158 to 163	COM31/SEG51 to COM26/SEG56	-	Not used
164	-	-	Not used

SECTION 7
EXPLODED VIEWS

NOTE:

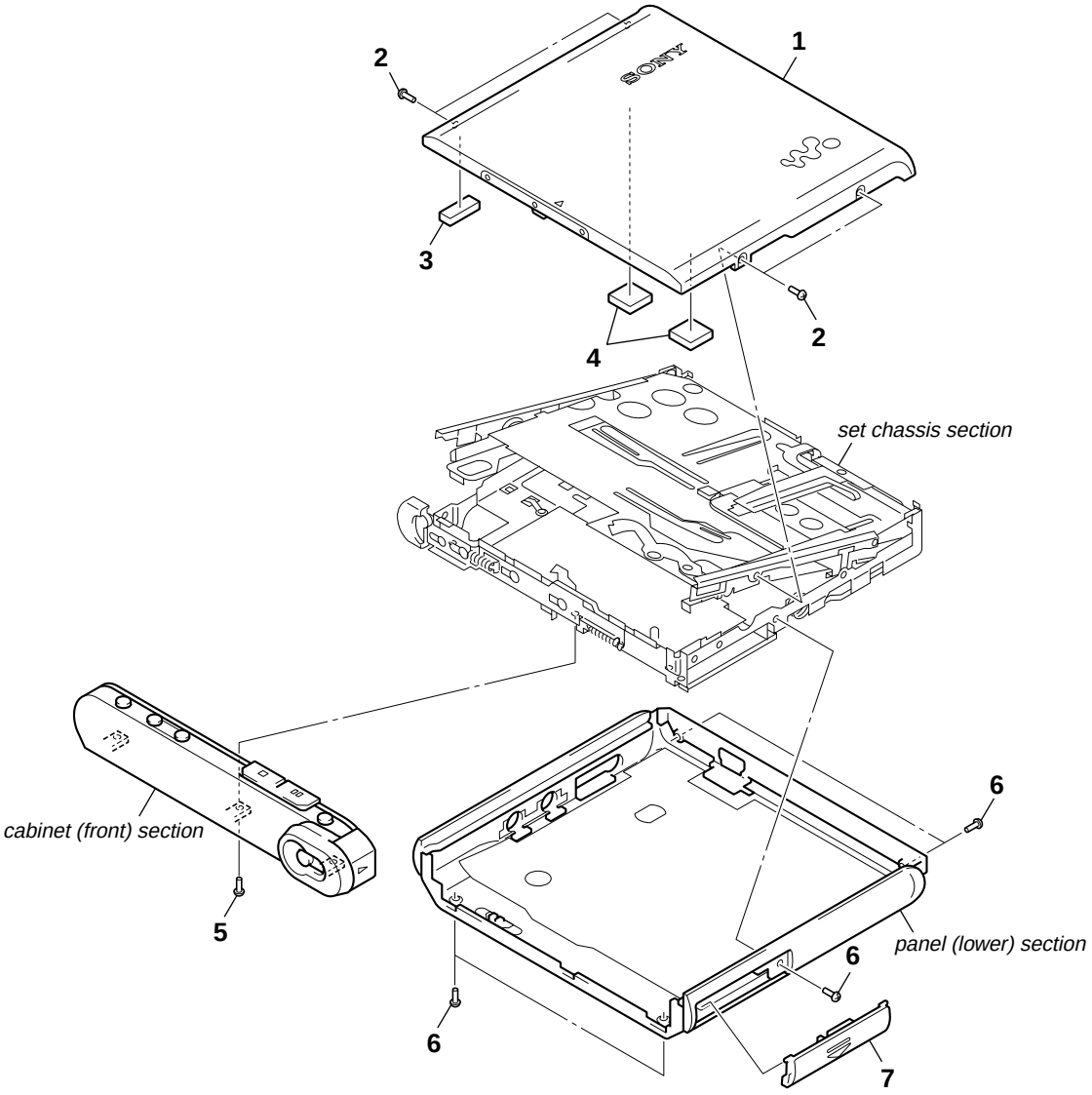
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Abbreviation
  CND : Canadian model

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories are given in the last of the electrical parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

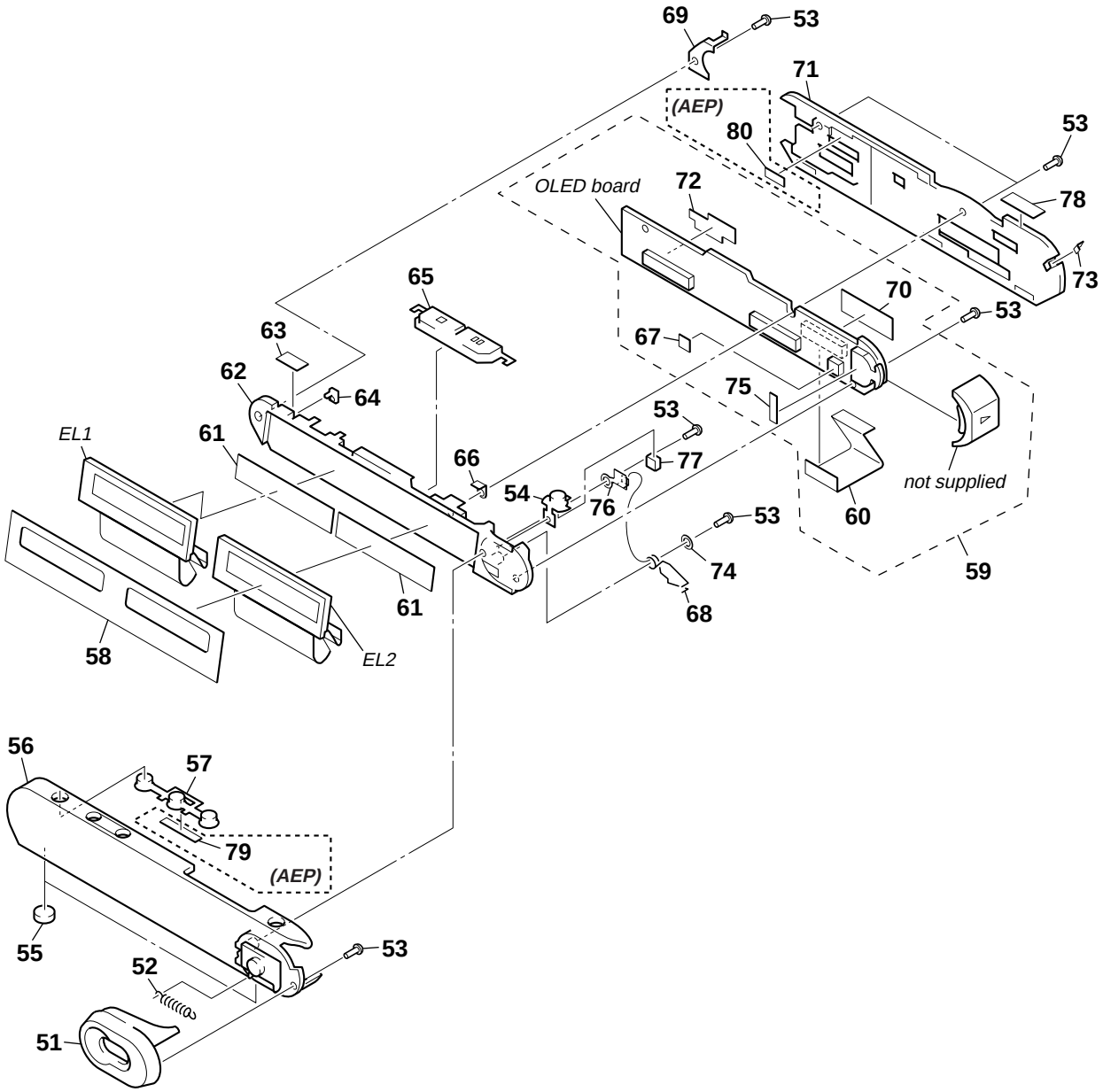
Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

7-1. PANEL (UPPER) SECTION



Ref. No.	Part No.	Description	Remark
1	X-2108-570-1	PANEL (UPPER) ASSY	
2	3-225-873-11	SCREW (M1.4)	
3	2-669-048-01	CUSHION (CASE UPPER)	
4	2-670-962-01	SPACER (UPPER)	
5	3-225-873-09	SCREW (M1.4)	
6	3-225-873-31	SCREW (M1.4)	
7	2-669-062-01	LID, BATTERY CASE	

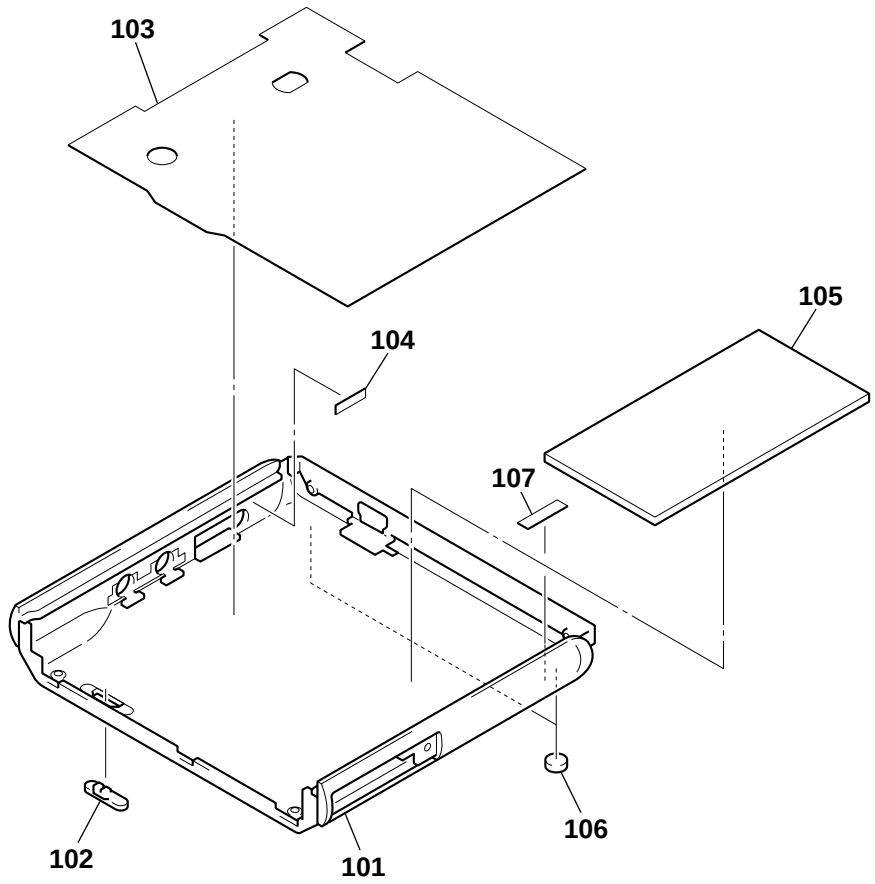
7-2. CABINET (FRONT) SECTION



Ref. No.	Part No.	Description	Remark
51	2-669-066-01	ORNAMENT (REC)	
52	2-669-072-01	SPRING (REC), TENSION	
53	3-248-370-01	SCREW, SELF TAP	
54	2-669-050-01	BUTTON (T MARK)	
55	3-049-923-01	FOOT	
56	X-2148-113-1	CABINET (FRONT) (SV) ASSY	
57	2-669-064-01	BUTTON (VOL/MENU)	
58	2-669-063-01	SHEET (BLIND)	
59	X-2148-114-1	OLED BOARD, COMPLETE (for SERVICE)	
60	1-831-839-11	CABLE, FLEXIBLE FLAT (18 CORE)	
61	2-669-049-01	SHEET (EL), ADHESIVE	
62	2-669-051-01	HOLDER (EL)	
63	2-680-919-01	SHEET (LED BLIND)	
64	2-673-582-01	LIGHT GUIDE PLATE	
65	2-669-052-01	BUTTON (PAUSE/STOP (▮▮, ■)	
66	2-680-920-01	SHEET (PAUSE/STOP)	

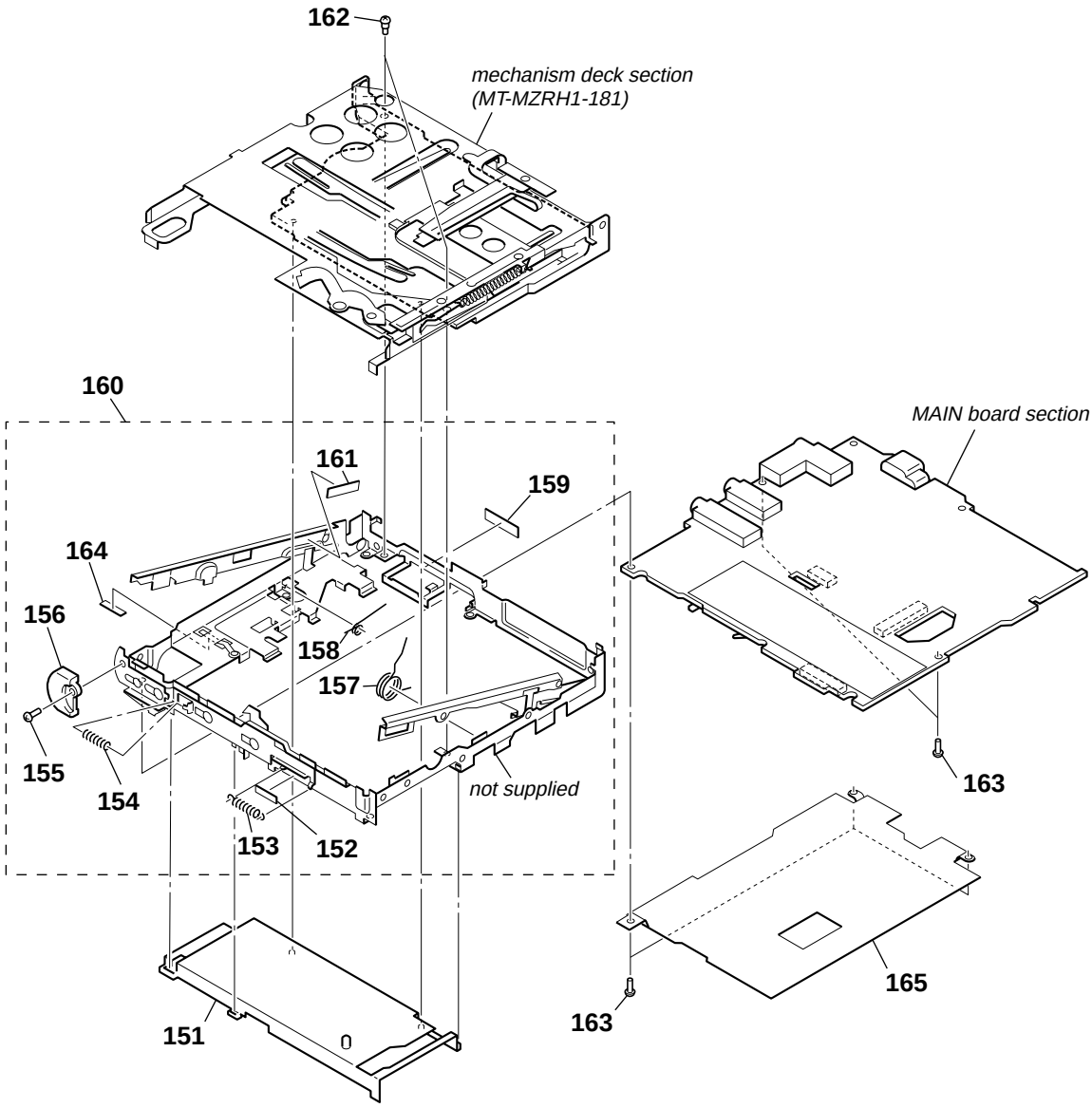
Ref. No.	Part No.	Description	Remark
67	2-680-917-01	SHEET (REC SW)	
68	2-683-425-01	SPRING (FF/FR), TORSION	
69	2-673-583-01	REINFORCEMENT	
70	2-024-013-01	SPACER (LINE IN)	
71	2-669-079-01	ORNAMENT (FRONT)	
72	2-680-918-02	SHEET (EL PWB)	
73	2-696-027-01	SHEET (ORNAMENT FRONT)	
74	2-683-554-01	WASHER (SPRING)	
75	2-687-382-01	SHEET (ENT) OLED	
76	2-687-383-01	PAPER (T MARK), GROUND	
77	2-693-589-01	SHEET (T MARK)	
78	2-693-588-01	SHEET (FRONT)	
79	2-696-032-01	SHEET, CU (KEY VOL) (AEP)	
80	2-696-031-01	SHEET (ORNAMENT FRONT) (AEP)	
EL1	1-802-022-11	INDICATOR MODULE, ORGANIC EL	
EL2	1-802-022-11	INDICATOR MODULE, ORGANIC EL	

7-3. LOWER PANEL SECTION



Ref. No.	Part No.	Description	Remark
101	X-2148-123-1	LOWER PANEL (SV) ASSY (AEP)	
101	X-2148-126-1	LOWER PANEL (SV) ASSY (US, CND)	
102	2-669-075-01	KNOB (HOLD)	
103	2-670-378-01	SHEET (BOTTOM PANEL)	
104	2-682-103-01	SPACER (SET CHASSIS)	
105	2-683-458-01	SHEET, SHIELD (BOTTOM PANEL)	
106	2-681-232-01	FOOT (PANEL)	
107	2-696-924-01	SHEET (ORNAMENT R)	

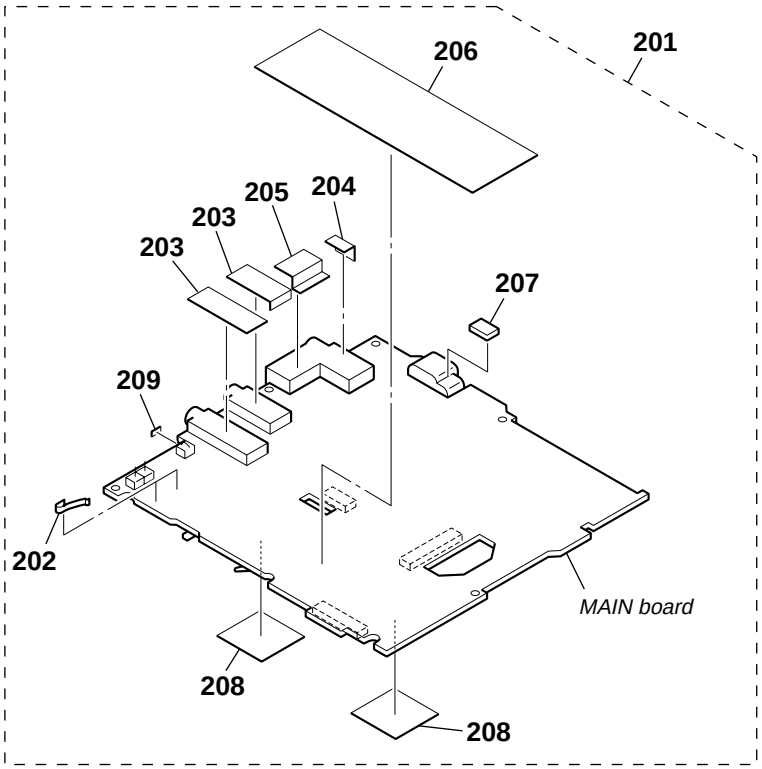
7-4. SET CHASSIS SECTION



Note: When mounting the MAIN board, refer to "3-4. MAIN BOARD" (page 7) in SECTION 3 DISASSEMBLY.

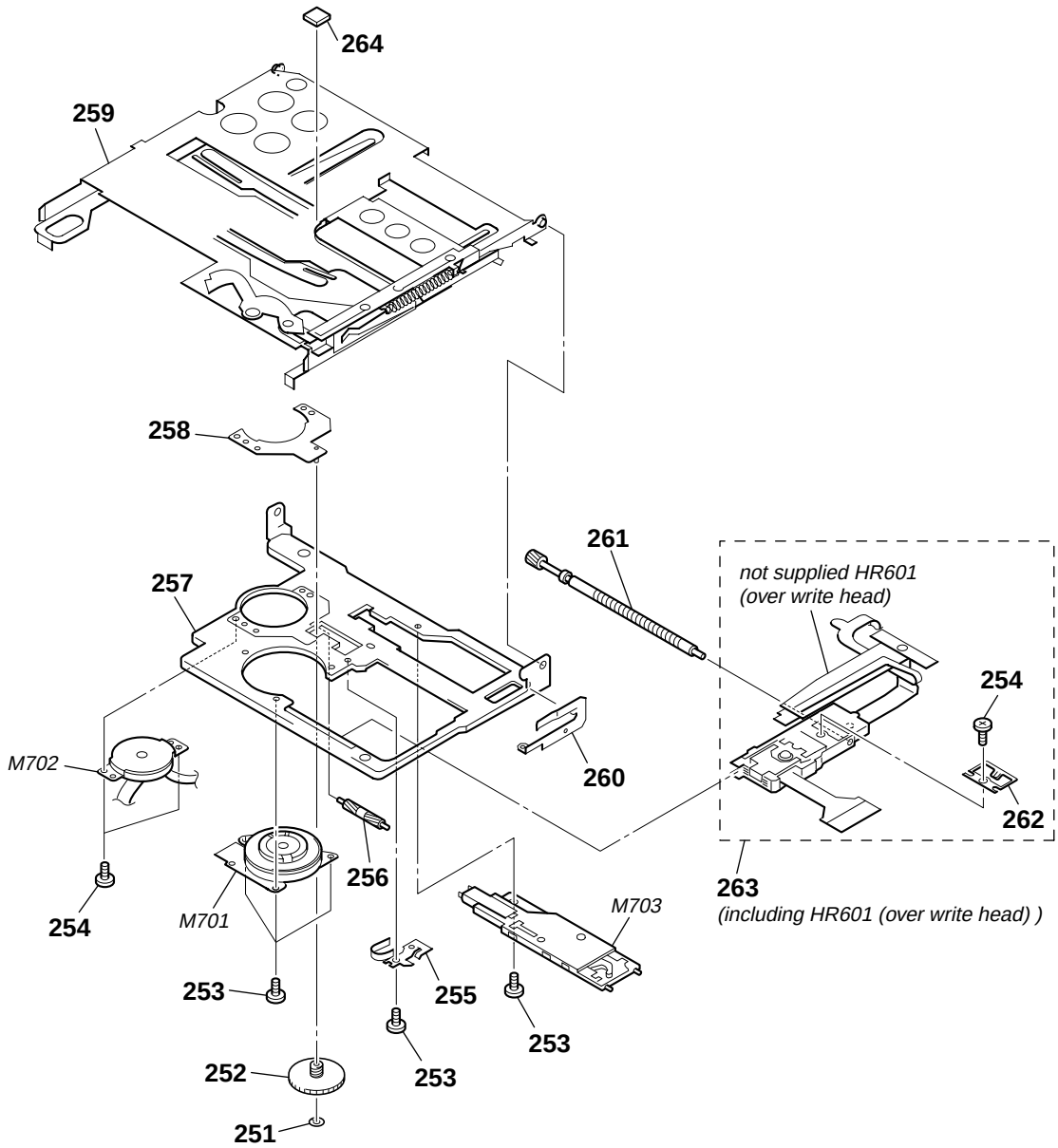
Ref. No.	Part No.	Description	Remark
151	2-669-053-01	CASE (BATT)	
152	2-682-104-01	SHEET (LOCK SPRING)	
153	3-245-889-01	SPRING (LIMITTER), COMPRESSION	
154	3-266-534-01	SPRING (LOCK), TENSION	
155	3-225-873-09	SCREW (M1.4)	
156	2-669-061-01	KNOB (OPEN)	
157	2-669-077-01	SPRING (POP UP R), TORSION	
158	2-669-076-01	SPRING (POP UP L), TORSION	
159	2-596-991-01	SHEET (MIC), INSULATING	
160	A-1169-929-A	CHASSIS BLOCK ASSY, SET	
161	2-682-105-01	SPACER (FULCRUM PLATE)	
162	3-246-996-01	SCREW (MD), STEP	
163	3-237-876-04	SCREW (M1.4), TOOTHED LOCK	
164	2-688-883-01	SHEET (O/C)	
165	X-2148-839-1	PLATE, SHIELD ASSY (SVX)	

7-5. MAIN BOARD SECTION



Ref. No.	Part No.	Description	Remark
201	X-2148-115-1	MAIN BOARD, COMPLETE (for SERVICE) (US, CND)	
201	X-2148-122-1	MAIN BOARD, COMPLETE (for SERVICE) (AEP)	
202	2-669-070-01	TERMINAL, BATTERY	
203	2-024-013-01	SPACER (LINE IN)	
204	2-596-991-01	SHEET (MIC), INSULATING	
205	2-024-015-01	SPACER (HP)	
206	2-669-535-01	SHEET (BATTERY)	
207	2-683-460-01	CUSHION (USB)	
208	2-631-292-01	SHEET, COIL	
209	2-689-554-01	SHEET (O/C), (SW)	

7-6. MECHANISM DECK SECTION (MT-MZRH1-181)



Ref. No.	Part No.	Description	Remark
251	3-338-645-31	WASHER (0.8-2.5)	
252	3-244-882-02	GEAR (SA)	
253	3-248-370-01	SCREW, SELF TAP	
254	3-225-996-17	SCREW (M1.4) (EG), PRECISION PAN	
255	3-244-880-01	SPRING, THRUST RETAINER	
256	3-263-455-01	GEAR (SB)	
257	3-259-972-25	CHASSIS (REC)	
258	X-2024-862-1	BASE, MOTOR ASSY	
259	X-2025-181-3	HOLDER ASSY	
260	3-263-453-01	PLATE, RATCHET	

Ref. No.	Part No.	Description	Remark
261	X-2023-272-1	SERVICE ASSY, LEAD SCREW	
262	3-244-879-01	SPRING, RACK	
⚠263	X-2148-128-1	SERVICE ASSY,OP (ABX-U2) (Included in OVER WRITE HEAD (HR601))	
264	2-674-385-01	SPACER (HOLDER)	
M701	8-835-782-12	MOTOR, DC SSM18D/C-NP (SPINDLE)	
M702	8-835-778-22	MOTOR, DC SSM21A/C-NP (SLED)	
M703	1-477-519-21	MOTOR UNIT, DC (OVER WRITE HEAD UP/DOWN)	

MAIN

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Abbreviation
  CND: Canadian model
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA... : µA... uPA... : µPA...
  uPB... : µPB... uPC... : µPC...
  uPD... : µPD...
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
	X-2148-115-1	MAIN BOARD, COMPLETE (for SERVICE) (US, CND)			
	X-2148-122-1	MAIN BOARD, COMPLETE (for SERVICE) (AEP)			
		**********			
	2-024-013-01	SPACER (LINE IN)			
	2-024-015-01	SPACER (HP)			
	2-596-991-01	SHEET (MIC), INSULATING			
	2-631-292-01	SHEET, COIL			
	2-669-070-01	TERMINAL, BATTERY			
	2-669-535-01	SHEET (BATTERY)			
	2-683-460-01	CUSHION (USB)			
	2-689-554-01	SHEET (O/C), (SW)			
		< CAPACITOR >			
C101	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C102	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C103	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C104	1-112-840-91	TANTALUM CHIP	470uF	20%	2.5V
C105	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C151	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C152	1-100-843-11	TANTALUM CHIP	47uF	20%	4V
C153	1-125-926-11	TANTALUM CHIP	4.7uF	20%	6.3V
C154	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C155	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C156	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C201	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C202	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C203	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C204	1-112-840-91	TANTALUM CHIP	470uF	20%	2.5V
C205	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C251	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C252	1-100-843-11	TANTALUM CHIP	47uF	20%	4V
C253	1-125-926-11	TANTALUM CHIP	4.7uF	20%	6.3V
C254	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C255	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C256	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C301	1-100-352-11	CERAMIC CHIP	1uF	20%	16V
C302	1-100-352-11	CERAMIC CHIP	1uF	20%	16V
C303	1-100-841-11	TANTALUM CHIP	100uF	20%	6.3V
C304	1-100-841-11	TANTALUM CHIP	100uF	20%	6.3V
C305	1-112-834-91	TANTALUM CHIP	47uF	20%	6.3V
C306	1-117-919-11	TANTALUM CHIP	10uF	20%	6.3V
C307	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C308	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V

Ref. No.	Part No.	Description			Remark
C309	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C310	1-100-786-91	TANTALUM CHIP	22uF	20%	6.3V
C311	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C313	1-100-352-11	CERAMIC CHIP	1uF	20%	16V
C314	1-100-352-11	CERAMIC CHIP	1uF	20%	16V
C315	1-100-352-11	CERAMIC CHIP	1uF	20%	16V
C316	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C317	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C352	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C353	1-117-919-11	TANTALUM CHIP	10uF	20%	6.3V
C354	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C355	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C356	1-100-842-11	TANTALUM CHIP	47uF	20%	6.3V
C357	1-113-600-11	TANTALUM CHIP	2.2uF	20%	6.3V
C358	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C359	1-113-600-11	TANTALUM CHIP	2.2uF	20%	6.3V
C360	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C361	1-100-842-11	TANTALUM CHIP	47uF	20%	6.3V
C362	1-100-842-11	TANTALUM CHIP	47uF	20%	6.3V
C363	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C364	1-100-442-11	TANTALUM CHIP	10uF	20%	6.3V
C366	1-117-919-11	TANTALUM CHIP	10uF	20%	6.3V
C368	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C369	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C401	1-165-897-11	TANTALUM CHIP	22uF	20%	10V
C402	1-165-897-11	TANTALUM CHIP	22uF	20%	10V
C405	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C406	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C407	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C408	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C410	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C412	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C413	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C415	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C441	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C442	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C451	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C452	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C456	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C457	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C460	1-137-934-11	TANTALUM CHIP	47uF	20%	10V
C471	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C472	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V

Ref. No.	Part No.	Description			Remark
C473	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C474	1-104-915-11	TANTALUM CHIP	2.2uF	20%	20V
C475	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C476	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C501	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C502	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C503	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C504	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C505	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C506	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C507	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C508	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C509	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C510	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C511	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C512	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C513	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C514	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C515	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C516	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C518	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C519	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C520	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C522	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C523	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C524	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C526	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C527	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C528	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C532	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C534	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C535	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V
C536	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C537	1-125-926-11	TANTALUM CHIP	4.7uF	20%	6.3V
C538	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C540	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C541	1-125-926-11	TANTALUM CHIP	4.7uF	20%	6.3V
C542	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C543	1-112-014-11	TANTALUM CHIP	4.7uF	20%	6.3V
C546	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C547	1-125-926-11	TANTALUM CHIP	4.7uF	20%	6.3V
C601	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C603	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C604	1-100-786-91	TANTALUM CHIP	22uF	20%	6.3V
C605	1-100-786-91	TANTALUM CHIP	22uF	20%	6.3V
C606	1-100-786-91	TANTALUM CHIP	22uF	20%	6.3V
C607	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C608	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C609	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C610	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C611	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C612	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C613	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C614	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C615	1-104-851-11	TANTALUM CHIP	10uF	20%	10V
C616	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C617	1-100-842-11	TANTALUM CHIP	47uF	20%	6.3V
C618	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C621	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C627	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C629	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C631	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C633	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C634	1-100-844-11	TANTALUM CHIP	22uF	20%	10V
C635	1-100-353-11	CERAMIC CHIP	4.7uF	10%	16V
C639	1-100-353-11	CERAMIC CHIP	4.7uF	10%	16V
C642	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C646	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C647	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C649	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C650	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C652	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C653	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C681	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C682	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C684	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C685	1-100-442-11	TANTALUM CHIP	10uF	20%	6.3V
C686	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C687	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C690	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C691	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C702	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C705	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C706	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C708	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C710	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C712	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C713	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C714	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C715	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C716	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C717	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C801	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C806	1-117-919-11	TANTALUM CHIP	10uF	20%	6.3V
C808	1-117-919-11	TANTALUM CHIP	10uF	20%	6.3V
C810	1-117-919-11	TANTALUM CHIP	10uF	20%	6.3V
C812	1-117-919-11	TANTALUM CHIP	10uF	20%	6.3V
C814	1-117-919-11	TANTALUM CHIP	10uF	20%	6.3V
C816	1-117-919-11	TANTALUM CHIP	10uF	20%	6.3V
C819	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C821	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C823	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C826	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C829	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C830	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C832	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C833	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C834	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C835	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C836	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C837	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C838	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C839	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C840	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C841	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

MAIN

Ref. No.	Part No.	Description			Remark
C842	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C843	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C846	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C847	1-164-848-11	CERAMIC CHIP	8PF	0.5PF	50V
C848	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C849	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C850	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C851	1-100-842-11	TANTALUM CHIP	47uF	20%	6.3V
C852	1-164-858-11	CERAMIC CHIP	22PF	5%	50V
C853	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C854	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C865	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C866	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C867	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C868	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C891	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C892	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C901	1-100-352-11	CERAMIC CHIP	1uF	20%	16V
C902	1-137-910-11	TANTALUM CHIP	10uF	20%	16V
C905	1-100-352-11	CERAMIC CHIP	1uF	20%	16V
C908	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C909	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C911	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C912	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C913	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C917	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C920	1-100-842-11	TANTALUM CHIP	47uF	20%	6.3V
C921	1-100-844-11	TANTALUM CHIP	22uF	20%	10V
C928	1-100-609-11	TANTALUM CHIP	220uF		5V
C930	1-165-897-11	TANTALUM CHIP	22uF	20%	10V
C931	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C933	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C942	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C943	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C944	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C947	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C949	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C950	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C954	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C955	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C956	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C961	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C962	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C982	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C983	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C984	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C985	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C988	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3302	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C3304	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3306	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C3353	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3360	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C3361	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C4441	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C4481	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C9001	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
CN441	1-820-016-11	CONNECTOR, SQUARE TYPE (USB) 7P	
CN471	1-793-670-61	CONNECTOR, FFC (LIF (NON-ZIF)) 18P	
CN501	1-818-539-21	CONNECTOR, FPC (ZIF) 26P	
CN701	1-818-536-21	CONNECTOR, FPC (ZIF) 10P	
		< DIODE >	
D101	8-719-056-23	DIODE MA2S111- (K8).SO	
D201	8-719-056-23	DIODE MA2S111- (K8).SO	
D401	6-501-199-01	DIODE NSR0320MW2T1G	
D441	6-500-483-01	DIODE MA22D2800LS0	
D442	8-719-422-49	DIODE MA8056-L	
D451	6-500-813-01	DIODE MA2SD32008S0	
D471	6-501-200-01	DIODE HRC0201ATRF-E	
D472	6-501-200-01	DIODE HRC0201ATRF-E	
D601	6-500-912-01	DIODE MA2SD3100LS0	
D602	6-500-813-01	DIODE MA2SD32008S0	
D603	6-500-813-01	DIODE MA2SD32008S0	
D604	6-500-813-01	DIODE MA2SD32008S0	
D605	6-500-813-01	DIODE MA2SD32008S0	
D607	6-500-813-01	DIODE MA2SD32008S0	
D608	6-500-813-01	DIODE MA2SD32008S0	
D610	6-501-199-01	DIODE NSR0320MW2T1G	
D681	6-501-201-01	DIODE BAT54XV2T1	
D682	6-500-909-01	DIODE MA22D1700LS0	
D683	6-500-909-01	DIODE MA22D1700LS0	
D684	6-500-909-01	DIODE MA22D1700LS0	
D685	6-501-201-01	DIODE BAT54XV2T1	
D686	6-500-909-01	DIODE MA22D1700LS0	
D801	6-500-813-01	DIODE MA2SD32008S0	
D901	6-501-200-01	DIODE HRC0201ATRF-E	
D902	6-501-200-01	DIODE HRC0201ATRF-E	
D903	6-501-200-01	DIODE HRC0201ATRF-E	
D904	6-501-200-01	DIODE HRC0201ATRF-E	
D905	6-501-200-01	DIODE HRC0201ATRF-E	
D906	6-501-200-01	DIODE HRC0201ATRF-E	
D981	6-500-813-01	DIODE MA2SD32008S0	
D982	6-500-813-01	DIODE MA2SD32008S0	
D983	8-719-072-27	DIODE MA2Z748001S0	
D984	8-719-072-27	DIODE MA2Z748001S0	
D3301	6-500-044-01	DIODE DF6A6.8FU (TE85R)	
D3302	6-500-044-01	DIODE DF6A6.8FU (TE85R)	
D3303	8-719-083-91	DIODE EDZ TE61 6.8B	
		< FUSE >	
⚠F301	1-576-439-41	FUSE 0.25A 125V	
		< FERRITE BEAD/RESISTOR >	
FB501	1-481-096-21	FERRITE, EMI (SMD) (1005)	
FB681	1-481-095-21	INDUCTOR, EMI FERRITE (1608)	
FB683	1-400-826-21	EMI FERRITE (SMD) (1005)	
FB684	1-400-826-21	EMI FERRITE (SMD) (1005)	
FB685	1-400-826-21	EMI FERRITE (SMD) (1005)	
FB686	1-400-826-21	EMI FERRITE (SMD) (1005)	
FB692	1-400-697-31	BEAD, FERRITE (CHIP) (1608)	
FB864	1-481-079-21	FERRITE, EMI (SMD)	
FB1101	1-400-180-21	INDUCTOR, EMI FERRITE (1608)	

Ref. No.	Part No.	Description			Remark
FB1151	1-414-594-11	INDUCTOR, FERRITE BEAD			
FB1152	1-400-591-22	BEAD, FERRITE (CHIP) (1608)			
FB2201	1-400-180-21	INDUCTOR, EMI FERRITE (1608)			
FB2251	1-414-594-11	INDUCTOR, FERRITE BEAD			
FB2252	1-400-591-22	BEAD, FERRITE (CHIP) (1608)			
FB3301	1-400-180-21	INDUCTOR, EMI FERRITE (1608)			
FB3302	1-216-864-11	SHORT CHIP	0		
FB3303	1-216-864-11	SHORT CHIP	0		
FB3304	1-216-805-11	METAL CHIP	47	5%	1/10W
FB3305	1-469-179-21	INDUCTOR, FERRITE BEAD			
FB3351	1-400-807-21	BEAD, FERRITE (1005)			
FB3352	1-414-594-11	INDUCTOR, FERRITE BEAD			
FB3353	1-400-591-22	BEAD, FERRITE (CHIP) (1608)			
FB3354	1-400-807-21	BEAD, FERRITE (1005)			
FB4401	1-469-869-21	INDUCTOR (EMI FERRITE) (2012)			
FB4402	1-469-869-21	INDUCTOR (EMI FERRITE) (2012)			
FB4442	1-400-180-21	INDUCTOR, EMI FERRITE (1608)			
		< IC >			
IC301	6-706-745-01	IC CXD9847K (TE4)			
IC302	6-709-231-01	IC MM3035FULE			
IC351	6-702-894-01	IC AK5356VN-L			
@ IC401	6-707-716-01	IC MM1690LCBE			
IC451	6-703-012-01	IC R2061K01-E2			
IC452	6-703-011-01	IC TC7SZ126AFE			
IC471	6-706-640-01	IC BH25FB1WG-TR			
IC472	6-707-762-01	IC XC9103D092MR			
@ IC501	6-708-542-01	IC SN761060ZQLR			
@ IC601	6-705-000-01	IC SC901585VAR2			
IC602	6-702-590-01	IC XC61CN1702NR			
IC604	6-706-214-01	IC TC7SL32FU (TE85R)			
IC605	6-709-240-01	IC BH12PB1WHFV-TR			
IC606	6-709-241-01	IC BH15PB1WHFV-TR			
IC607	6-709-242-01	IC BH33PB1WHFV-TR			
IC608	6-709-319-01	IC XC6213B152NR			
IC681	6-709-180-01	IC SN74LVC541ARGYR			
IC682	6-709-181-01	IC SN74LVC157ARGYR			
@ IC701	6-708-355-01	IC BD6608GLV-E2			
IC801	(Not supplied)	IC CXD2687-001GG			
IC802	6-709-057-01	IC R1180N121C-TR-FA			
IC804	6-709-505-01	IC XC6213B232MR			
IC891	6-805-607-01	IC AK6508CU-L			
IC901	6-704-997-01	IC SC901584EPR2			
IC961	6-709-320-01	IC XC6213B312MR			
IC981	8-759-664-89	IC XC61CN3102NR			
IC982	6-706-094-01	IC R1180Q221B-TR-FA			
		< JACK >			
J301	1-816-944-11	JACK (🎧/LINE OUT)			
J351	1-816-946-21	JACK (LINE IN (OPT))			
J352	1-816-945-21	JACK (MIC (PLUG IN POWER))			
		< COIL/JUMPER RESISTOR >			
L101	1-400-582-21	INDUCTOR	47uH		

Note: IC801 on the MAIN board can not be exchanged alone. When IC801 on the MAIN board is damaged, exchange the complete MAIN board.

@ Replacement of IC401, IC501, IC601 and IC701 on the MAIN board used in this set requires a special tool.

Ref. No.	Part No.	Description		Remark
L201	1-400-582-21	INDUCTOR	47uH	
L471	1-457-201-21	INDUCTOR	22uH	
L501	1-400-397-11	INDUCTOR	10uH	
L502	1-400-397-11	INDUCTOR	10uH	
L503	1-400-397-11	INDUCTOR	10uH	
L504	1-400-342-21	INDUCTOR	10uH	
L505	1-400-342-21	INDUCTOR	10uH	
L506	1-400-397-11	INDUCTOR	10uH	
L601	1-400-306-11	INDUCTOR	100uH	
L603	1-400-402-21	INDUCTOR	4.7uH	
L604	1-456-722-21	INDUCTOR	100uH	
L701	1-456-724-21	FERRITE	22uH	
L703	1-456-724-21	FERRITE	22uH	
L801	1-216-296-11	SHORT CHIP	0	
L802	1-216-296-11	SHORT CHIP	0	
L803	1-216-864-11	SHORT CHIP	0	
L804	1-400-343-21	INDUCTOR	22uH	
L901	1-457-206-11	INDUCTOR	220uH	
L903	1-456-723-21	INDUCTOR	220uH	
L904	1-216-864-11	SHORT CHIP	0	
L905	1-456-723-21	INDUCTOR	220uH	
		< TRANSISTOR >		
Q101	8-729-050-32	TRANSISTOR	2SC5585TL	
Q201	8-729-050-32	TRANSISTOR	2SC5585TL	
Q301	6-551-127-01	TRANSISTOR	RT1P441U-TP-1	
Q302	6-550-818-01	FET	US6K1TR	
Q351	8-729-051-23	TRANSISTOR	2SA2018TL	
Q401	6-551-476-01	FET	MTM232230LS0	
Q402	8-729-421-15	TRANSISTOR	2SD1119-Q	
Q404	6-551-476-01	FET	MTM232230LS0	
Q405	6-551-274-01	TRANSISTOR	MUN5314DW1T1G	
Q406	6-550-192-01	TRANSISTOR	DTC144EET1	
Q441	6-550-354-01	FET	RTQ035P02TR	
Q442	6-551-321-01	TRANSISTOR	RT3WLMM-TP-1F	
Q471	6-551-154-01	TRANSISTOR	RT2C00M-TP	
Q472	6-551-273-01	FET	RTR025N03TL	
Q473	6-551-476-01	FET	MTM232230LS0	
Q474	6-551-274-01	TRANSISTOR	MUN5314DW1T1G	
Q475	6-551-327-01	TRANSISTOR	RT1N144U-TP-1	
Q501	8-729-051-23	TRANSISTOR	2SA2018TL	
Q502	6-551-325-01	TRANSISTOR	2SC5383-TP-1F	
Q503	6-551-154-01	TRANSISTOR	RT2C00M-TP	
Q601	6-550-671-01	FET	NTHC5513T1G	
Q603	6-551-325-01	TRANSISTOR	2SC5383-TP-1F	
Q604	6-551-325-01	TRANSISTOR	2SC5383-TP-1F	
Q606	6-550-354-01	FET	RTQ035P02TR	
Q608	6-551-476-01	FET	MTM232230LS0	
Q609	6-551-321-01	TRANSISTOR	RT3WLMM-TP-1F	
Q610	6-551-476-01	FET	MTM232230LS0	
Q611	6-551-321-01	TRANSISTOR	RT3WLMM-TP-1F	
Q612	6-550-379-01	FET	2SK354700LS0	
Q613	6-550-379-01	FET	2SK354700LS0	
Q681	6-550-357-01	FET	CPH5614-TL-E	
Q682	6-550-740-01	FET	MCH6617-TL-E	
Q802	6-551-325-01	TRANSISTOR	2SC5383-TP-1F	
Q901	6-551-321-01	TRANSISTOR	RT3WLMM-TP-1F	
Q902	6-551-325-01	TRANSISTOR	2SC5383-TP-1F	

MAIN

Ref. No.	Part No.	Description			Remark
Q981	6-551-327-01	TRANSISTOR	RT1N144U-TP-1		
Q982	6-551-274-01	TRANSISTOR	MUN5314DW1T1G		
Q983	6-551-274-01	TRANSISTOR	MUN5314DW1T1G		
Q984	6-551-476-01	FET	MTM232230LS0		
		< RESISTOR >			
R101	1-218-990-11	SHORT CHIP	0		
R103	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R104	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R105	1-218-929-11	RES-CHIP	10	5%	1/16W (AEP)
R106	1-218-933-11	RES-CHIP	22	5%	1/16W (AEP)
R106	1-218-990-11	SHORT CHIP	0 (US, CND)		
R151	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R152	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R153	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R154	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R201	1-218-990-11	SHORT CHIP	0		
R203	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R204	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R205	1-218-929-11	RES-CHIP	10	5%	1/16W (AEP)
R205	1-218-990-11	SHORT CHIP	0 (US, CND)		
R206	1-218-933-11	RES-CHIP	22	5%	1/16W (AEP)
R251	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R252	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R253	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R254	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R301	1-218-990-11	SHORT CHIP	0		
R302	1-218-969-11	RES-CHIP	22K	5%	1/16W
R304	1-218-990-11	SHORT CHIP	0		
R305	1-218-933-11	RES-CHIP	22	5%	1/16W
R306	1-218-990-11	SHORT CHIP	0		
R308	1-218-953-11	RES-CHIP	1K	5%	1/16W
R309	1-218-973-11	RES-CHIP	47K	5%	1/16W
R310	1-218-989-11	RES-CHIP	1M	5%	1/16W
R312	1-218-990-11	SHORT CHIP	0		
R351	1-218-953-11	RES-CHIP	1K	5%	1/16W
R352	1-218-953-11	RES-CHIP	1K	5%	1/16W
R353	1-218-929-11	RES-CHIP	10	5%	1/16W
R354	1-218-941-11	RES-CHIP	100	5%	1/16W
R355	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R356	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R357	1-218-965-11	RES-CHIP	10K	5%	1/16W
R358	1-218-977-11	RES-CHIP	100K	5%	1/16W
R359	1-218-953-11	RES-CHIP	1K	5%	1/16W
R360	1-218-929-11	RES-CHIP	10	5%	1/16W
R361	1-218-929-11	RES-CHIP	10	5%	1/16W
R401	1-218-989-11	RES-CHIP	1M	5%	1/16W
R402	1-245-455-21	METAL CHIP	0.47	1%	1/5W
R403	1-245-456-21	METAL CHIP	1	1%	1/5W
R404	1-245-454-21	METAL CHIP	0.022	1%	1/5W
R405	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R406	1-218-990-11	SHORT CHIP	0		
R407	1-218-977-11	RES-CHIP	100K	5%	1/16W
R408	1-218-977-11	RES-CHIP	100K	5%	1/16W
R409	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R410	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R411	1-218-977-11	RES-CHIP	100K	5%	1/16W
R414	1-218-990-11	SHORT CHIP	0		
R422	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R423	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R425	1-220-804-11	RES-CHIP	2.2M	5%	1/16W
R427	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R428	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R441	1-218-981-11	RES-CHIP	220K	5%	1/16W
R442	1-218-965-11	RES-CHIP	10K	5%	1/16W
R444	1-218-945-11	RES-CHIP	220	5%	1/16W
R445	1-218-977-11	RES-CHIP	100K	5%	1/16W
R446	1-220-804-11	RES-CHIP	2.2M	5%	1/16W
R447	1-218-989-11	RES-CHIP	1M	5%	1/16W
R448	1-218-985-11	RES-CHIP	470K	5%	1/16W
R451	1-218-990-11	SHORT CHIP	0		
R452	1-218-981-11	RES-CHIP	220K	5%	1/16W
R454	1-218-990-11	SHORT CHIP	0		
R455	1-218-990-11	SHORT CHIP	0		
R461	1-218-990-11	SHORT CHIP	0		
R471	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R472	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R473	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R474	1-218-941-11	RES-CHIP	100	5%	1/16W
R475	1-218-941-11	RES-CHIP	100	5%	1/16W
R476	1-218-941-11	RES-CHIP	100	5%	1/16W
R477	1-218-977-11	RES-CHIP	100K	5%	1/16W
R478	1-218-981-11	RES-CHIP	220K	5%	1/16W
R480	1-216-801-11	METAL CHIP	22	5%	1/10W
R481	1-218-985-11	RES-CHIP	470K	5%	1/16W
R482	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R483	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R484	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R485	1-218-990-11	SHORT CHIP	0		
R486	1-218-981-11	RES-CHIP	220K	5%	1/16W
R487	1-218-977-11	RES-CHIP	100K	5%	1/16W
R488	1-218-989-11	RES-CHIP	1M	5%	1/16W
R489	1-218-977-11	RES-CHIP	100K	5%	1/16W
R490	1-218-973-11	RES-CHIP	47K	5%	1/16W
R493	1-218-953-11	RES-CHIP	1K	5%	1/16W
R501	1-218-953-11	RES-CHIP	1K	5%	1/16W
R502	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R503	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R504	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R505	1-218-990-11	SHORT CHIP	0		
R506	1-218-990-11	SHORT CHIP	0		
R508	1-218-990-11	SHORT CHIP	0		
R510	1-218-965-11	RES-CHIP	10K	5%	1/16W
R511	1-218-973-11	RES-CHIP	47K	5%	1/16W
R512	1-218-965-11	RES-CHIP	10K	5%	1/16W
R513	1-218-973-11	RES-CHIP	47K	5%	1/16W
R514	1-218-977-11	RES-CHIP	100K	5%	1/16W
R515	1-218-977-11	RES-CHIP	100K	5%	1/16W
R516	1-218-969-11	RES-CHIP	22K	5%	1/16W
R517	1-218-977-11	RES-CHIP	100K	5%	1/16W
R601	1-218-933-11	RES-CHIP	22	5%	1/16W

Ref. No.	Part No.	Description			Remark
R602	1-218-969-11	RES-CHIP	22K	5%	1/16W
R603	1-218-945-11	RES-CHIP	220	5%	1/16W
R604	1-218-985-11	RES-CHIP	470K	5%	1/16W
R605	1-218-989-11	RES-CHIP	1M	5%	1/16W
R606	1-220-804-11	RES-CHIP	2.2M	5%	1/16W
R608	1-218-965-11	RES-CHIP	10K	5%	1/16W
R610	1-218-446-11	METAL CHIP	1	5%	1/10W
R612	1-218-985-11	RES-CHIP	470K	5%	1/16W
R613	1-218-985-11	RES-CHIP	470K	5%	1/16W
R614	1-218-977-11	RES-CHIP	100K	5%	1/16W
R615	1-218-977-11	RES-CHIP	100K	5%	1/16W
R616	1-218-985-11	RES-CHIP	470K	5%	1/16W
R617	1-218-969-11	RES-CHIP	22K	5%	1/16W
R622	1-216-797-11	METAL CHIP	10	5%	1/10W
R623	1-245-456-21	METAL CHIP	1	1%	1/5W
R624	1-218-989-11	RES-CHIP	1M	5%	1/16W
R626	1-245-456-21	METAL CHIP	1	1%	1/5W
R627	1-218-953-11	RES-CHIP	1K	5%	1/16W
R629	1-218-945-11	RES-CHIP	220	5%	1/16W
R630	1-244-161-11	RES-CHIP	2.2	5%	1/16W
R631	1-220-804-11	RES-CHIP	2.2M	5%	1/16W
R634	1-218-989-11	RES-CHIP	1M	5%	1/16W
R635	1-218-990-11	SHORT CHIP	0		
R637	1-218-989-11	RES-CHIP	1M	5%	1/16W
R639	1-218-981-11	RES-CHIP	220K	5%	1/16W
R640	1-218-985-11	RES-CHIP	470K	5%	1/16W
R641	1-218-985-11	RES-CHIP	470K	5%	1/16W
R642	1-218-977-11	RES-CHIP	100K	5%	1/16W
R643	1-218-985-11	RES-CHIP	470K	5%	1/16W
R644	1-218-981-11	RES-CHIP	220K	5%	1/16W
R645	1-218-985-11	RES-CHIP	470K	5%	1/16W
R646	1-218-985-11	RES-CHIP	470K	5%	1/16W
R647	1-218-977-11	RES-CHIP	100K	5%	1/16W
R648	1-218-973-11	RES-CHIP	47K	5%	1/16W
R649	1-218-985-11	RES-CHIP	470K	5%	1/16W
R650	1-218-990-11	SHORT CHIP	0		
R651	1-218-985-11	RES-CHIP	470K	5%	1/16W
R652	1-218-989-11	RES-CHIP	1M	5%	1/16W
R653	1-218-990-11	SHORT CHIP	0		
R654	1-218-990-11	SHORT CHIP	0		
R656	1-218-990-11	SHORT CHIP	0		
R657	1-218-990-11	SHORT CHIP	0		
R658	1-218-989-11	RES-CHIP	1M	5%	1/16W
R681	1-218-985-11	RES-CHIP	470K	5%	1/16W
R682	1-218-985-11	RES-CHIP	470K	5%	1/16W
R701	1-218-953-11	RES-CHIP	1K	5%	1/16W
R702	1-218-965-11	RES-CHIP	10K	5%	1/16W
R703	1-218-965-11	RES-CHIP	10K	5%	1/16W
R704	1-218-965-11	RES-CHIP	10K	5%	1/16W
R705	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R706	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R707	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R708	1-218-990-11	SHORT CHIP	0		
R709	1-218-990-11	SHORT CHIP	0		
R802	1-218-990-11	SHORT CHIP	0		
R803	1-218-990-11	SHORT CHIP	0		
R804	1-218-990-11	SHORT CHIP	0		
R805	1-218-990-11	SHORT CHIP	0		
R806	1-216-864-11	SHORT CHIP	0		
R807	1-216-864-11	SHORT CHIP	0		
R808	1-218-990-11	SHORT CHIP	0		
R809	1-218-990-11	SHORT CHIP	0		
R810	1-218-990-11	SHORT CHIP	0		
R811	1-218-990-11	SHORT CHIP	0		
R812	1-218-965-11	RES-CHIP	10K	5%	1/16W
R813	1-218-977-11	RES-CHIP	100K	5%	1/16W
R816	1-218-981-11	RES-CHIP	220K	5%	1/16W
R817	1-218-953-11	RES-CHIP	1K	5%	1/16W
R818	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R819	1-218-953-11	RES-CHIP	1K	5%	1/16W
R820	1-218-945-11	RES-CHIP	220	5%	1/16W
R821	1-220-804-11	RES-CHIP	2.2M	5%	1/16W
R822	1-218-989-11	RES-CHIP	1M	5%	1/16W
R826	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R830	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R831	1-218-985-11	RES-CHIP	470K	5%	1/16W
R833	1-218-990-11	SHORT CHIP	0		
R837	1-218-965-11	RES-CHIP	10K	5%	1/16W
R842	1-218-990-11	SHORT CHIP	0		
R843	1-218-990-11	SHORT CHIP	0		
R847	1-218-985-11	RES-CHIP	470K	5%	1/16W
R848	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R849	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R850	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R853	1-218-965-11	RES-CHIP	10K	5%	1/16W
R854	1-218-990-11	SHORT CHIP	0		
R857	1-218-990-11	SHORT CHIP	0		
R858	1-218-990-11	SHORT CHIP	0		
R863	1-218-953-11	RES-CHIP	1K	5%	1/16W
R865	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R866	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R867	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R870	1-216-864-11	SHORT CHIP	0		
R871	1-218-949-11	RES-CHIP	470	5%	1/16W
R872	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R873	1-218-977-11	RES-CHIP	100K	5%	1/16W
R874	1-218-939-11	RES-CHIP	68	5%	1/16W
R875	1-218-990-11	SHORT CHIP	0		
R876	1-218-990-11	SHORT CHIP	0		
R877	1-218-973-11	RES-CHIP	47K	5%	1/16W
R879	1-218-990-11	SHORT CHIP	0		
R881	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R885	1-218-990-11	SHORT CHIP	0		
R887	1-218-989-11	RES-CHIP	1M	5%	1/16W
R889	1-218-990-11	SHORT CHIP	0		
R891	1-218-990-11	SHORT CHIP	0		
R892	1-218-977-11	RES-CHIP	100K	5%	1/16W
R895	1-218-977-11	RES-CHIP	100K	5%	1/16W
R896	1-218-990-11	SHORT CHIP	0		
R901	1-218-977-11	RES-CHIP	100K	5%	1/16W
R902	1-218-985-11	RES-CHIP	470K	5%	1/16W
R903	1-218-977-11	RES-CHIP	100K	5%	1/16W
R905	1-218-989-11	RES-CHIP	1M	5%	1/16W
R906	1-218-989-11	RES-CHIP	1M	5%	1/16W
R907	1-218-977-11	RES-CHIP	100K	5%	1/16W

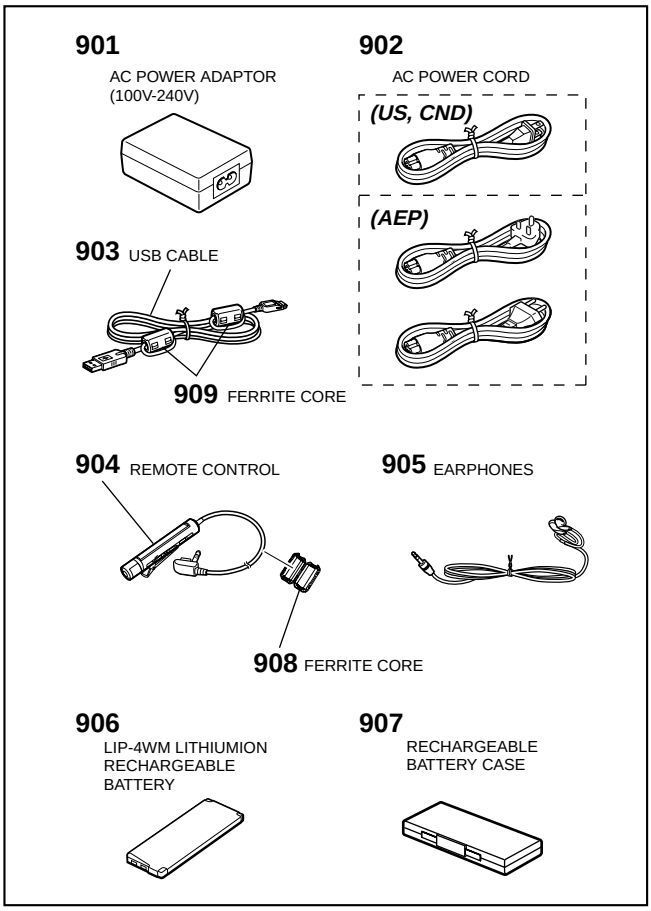
MAIN **OLED**

Ref. No.	Part No.	Description			Remark
R908	1-218-965-11	RES-CHIP	10K	5%	1/16W
R912	1-218-973-11	RES-CHIP	47K	5%	1/16W
R913	1-218-977-11	RES-CHIP	100K	5%	1/16W
R916	1-218-969-11	RES-CHIP	22K	5%	1/16W
R917	1-218-969-11	RES-CHIP	22K	5%	1/16W
R918	1-218-981-11	RES-CHIP	220K	5%	1/16W
R920	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R921	1-218-981-11	RES-CHIP	220K	5%	1/16W
R923	1-218-985-11	RES-CHIP	470K	5%	1/16W
R925	1-218-985-11	RES-CHIP	470K	5%	1/16W
R927	1-218-977-11	RES-CHIP	100K	5%	1/16W
R928	1-218-990-11	SHORT CHIP	0		
R929	1-218-985-11	RES-CHIP	470K	5%	1/16W
R930	1-218-973-11	RES-CHIP	47K	5%	1/16W
R931	1-218-973-11	RES-CHIP	47K	5%	1/16W
R934	1-218-973-11	RES-CHIP	47K	5%	1/16W
R935	1-218-985-11	RES-CHIP	470K	5%	1/16W
R936	1-218-990-11	SHORT CHIP	0		
R937	1-244-161-11	RES-CHIP	2.2	5%	1/16W
R938	1-244-161-11	RES-CHIP	2.2	5%	1/16W
R939	1-220-803-81	RES-CHIP	4.7	5%	1/16W
R941	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R942	1-218-990-11	SHORT CHIP	0		
R943	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R944	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R945	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R948	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R949	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R950	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R951	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R952	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R953	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R961	1-218-990-11	SHORT CHIP	0		
R962	1-218-989-11	RES-CHIP	1M	5%	1/16W
R981	1-218-989-11	RES-CHIP	1M	5%	1/16W
R982	1-218-977-11	RES-CHIP	100K	5%	1/16W
R983	1-218-965-11	RES-CHIP	10K	5%	1/16W
R984	1-218-977-11	RES-CHIP	100K	5%	1/16W
R985	1-218-981-11	RES-CHIP	220K	5%	1/16W
R986	1-218-973-11	RES-CHIP	47K	5%	1/16W
R987	1-218-965-11	RES-CHIP	10K	5%	1/16W
R988	1-220-804-11	RES-CHIP	2.2M	5%	1/16W
R989	1-218-981-11	RES-CHIP	220K	5%	1/16W
R990	1-218-990-11	SHORT CHIP	0		
R3301	1-218-990-11	SHORT CHIP	0		
R3351	1-218-941-11	RES-CHIP	100	5%	1/16W
R4441	1-216-864-11	SHORT CHIP	0		
R4442	1-216-864-11	SHORT CHIP	0		
		< SWITCH >			
S401	1-786-545-21	SWITCH, PUSH LEVER (S) (BATTERY INSERT DETECT)			
S461	1-786-692-21	SWITCH, PUSH (1 KEY) (PROTECT DETECT)			
S462	1-786-448-22	SWITCH, PUSH (1 KEY) (HALF LOCK)			
S463	1-786-443-21	SWITCH, DETECTION (OPEN/CLOSE DETECT)			
S464	1-786-436-21	SWITCH, SLIDE (HOLD)			
S465	1-786-926-11	SWITCH, PUSH (1 KEY) (Hi-MD PROTECT DETECT)			

Ref. No.	Part No.	Description			Remark
		< THERMISTOR >			
TH801	1-805-194-21	THERMISTOR, NTC (SMD)			
		< VIBRATOR >			
X451	1-795-602-11	VIBRATOR, CRYSTAL (32.768kHz)			
X801	1-813-746-11	VIBRATOR, CRYSTAL (22.5792MHz)			
X802	1-813-725-11	QUARTZ CRYSTAL UNIT (48MHz)			
**********					
	X-2148-114-1	OLED BOARD, COMPLETE (for service)			
		**********			
	1-831-839-11	CABLE, FLEXIBLE FLAT (18 CORE)			
	2-024-013-01	SPACER (LINE IN)			
	2-680-917-01	SHEET (REC SW)			
	2-680-918-02	SHEET (EL PWB)			
	2-687-382-01	SHEET (ENT)			
		< CAPACITOR >			
C1	1-137-703-91	TANTALUM CHIP	1uF	20%	20V
C2	1-100-352-11	CERAMIC CHIP	1uF	20%	16V
C3	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C4	1-137-703-91	TANTALUM CHIP	1uF	20%	20V
C5	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C10	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C11	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C12	1-100-352-11	CERAMIC CHIP	1uF	20%	16V
C13	1-137-703-91	TANTALUM CHIP	1uF	20%	20V
C14	1-137-703-91	TANTALUM CHIP	1uF	20%	20V
C15	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
		< CONNECTOR >			
CN1	1-818-600-11	CONNECTOR, FPC (ZIF) 39P			
CN2	1-818-600-11	CONNECTOR, FPC (ZIF) 39P			
CN3	1-793-670-61	CONNECTOR, FFC (LIF (NON-ZIF)) 18P			
		< DIODE >			
D1	6-501-201-01	DIODE BAT54XV2T1			
D2	6-500-604-01	LED CL-270HR-C-TSL (REC)			
		< IC >			
IC1	(Not supplied)	IC S1C88317D04H000			
		< RESISTOR >			
R2	1-218-989-11	RES-CHIP	1M	5%	1/16W
R3	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4	1-218-981-11	RES-CHIP	220K	5%	1/16W
R5	1-218-989-11	RES-CHIP	1M	5%	1/16W
R8	1-218-949-11	RES-CHIP	470	5%	1/16W
R9	1-218-953-11	RES-CHIP	1K	5%	1/16W
R10	1-218-989-11	RES-CHIP	1M	5%	1/16W
R11	1-218-949-11	RES-CHIP	470	5%	1/16W
R12	1-218-953-11	RES-CHIP	1K	5%	1/16W
R13	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R14	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R15	1-218-981-11	RES-CHIP	220K	5%	1/16W

Note: IC1 and S8 on the OLED board can not be exchanged alone. When IC1 and S8 on the OLED board are damaged, exchange the complete OLED board.

Ref. No.	Part No.	Description	Remark
R16	1-218-989-11	RES-CHIP 1M 5%	1/16W
		< SWITCH >	
S1	1-786-101-22	SWITCH, DETECTION (REC)	
S2	1-786-540-21	SWITCH, TACTILE (❚❚)	
S3	1-786-540-21	SWITCH, TACTILE (VOL –)	
S4	1-786-540-21	SWITCH, TACTILE (VOL +)	
S5	1-786-540-21	SWITCH, TACTILE (T MARK)	
S6	1-786-540-21	SWITCH, TACTILE (CANCEL, ■)	
S7	1-786-540-21	SWITCH, TACTILE (DISPLY/MENU)	
S8	(Not supplied)	LEVER (SLIDE TYPE) SWITCH (►/ENT/FF/FR)	
		< VIBRATOR >	
X1	1-795-214-21	VIBRATOR, CERAMIC (4MHz)	
**********			
		MISCELLANEOUS	
		**********	
⚠263	X-2148-128-1	SERVICE ASSY,OP (ABX-U2)	
		(Included in OVER WRITE HEAD (HR601))	
EL1	1-802-022-11	INDICATOR MODULE, ORGANIC EL	
EL2	1-802-022-11	INDICATOR MODULE, ORGANIC EL	
M701	8-835-782-12	MOTOR, DC SSM18D/C-NP (SPINDLE)	
M702	8-835-778-22	MOTOR, DC SSM21A/C-NP (SLED)	
M703	1-477-519-21	MOTOR UNIT, DC	
		(OVER WRITE HEAD UP/DOWN)	
**********			
		ACCESSORIES	
		**********	
	1-400-877-11	FILTER, CLAMP (FERRITE CORE)	
		(for OPTIONAL STEREO MICROPHONE)	
	1-500-484-21	CLAMP, SLEEVE FERRITE	
		(for OPTIONAL LINE CABLE)	
	1-816-206-11	CONNECTOR, LIGHT (OPTICAL CABLE) (AEP)	
	2-669-084-11	MANUAL, INSTRUCTION (ENGLISH)	
	2-669-084-21	MANUAL, INSTRUCTION (FRENCH)	
	2-669-084-31	MANUAL, INSTRUCTION (GERMAN) (AEP)	
	2-669-084-41	MANUAL, INSTRUCTION (SPANISH)	
	2-669-084-61	MANUAL, INSTRUCTION (DUTCH) (AEP)	
	2-669-084-71	MANUAL, INSTRUCTION (ITALIAN) (AEP)	
	2-677-198-11	MANUAL (FOR MAC), INSTRUCTION	
		(Hi-MD Music Transfer for Mac) (ENGLISH)	
	2-677-198-21	MANUAL (FOR MAC), INSTRUCTION	
		(Hi-MD Music Transfer for Mac) (FRENCH)	
	2-677-198-31	MANUAL (FOR MAC), INSTRUCTION	
		(GERMAN) (Hi-MD Music Transfer for Mac) (AEP)	
	2-677-198-41	MANUAL (FOR MAC), INSTRUCTION	
		(Hi-MD Music Transfer for Mac) (SPANISH)	
	2-677-198-61	MANUAL (for MAC), INSTRUCTION	
		(Hi-MD Music Transfer for Mac) (DUTCH) (AEP)	
	2-677-198-71	MANUAL (for MAC), INSTRUCTION	
		(Hi-MD Music Transfer for Mac) (ITALIAN) (AEP)	
	3-220-749-01	CASE, CARRYING	
	X-2108-572-2	CD-ROM (APPLICATION) ASSY	
		(Windows: SonicStage/MD Simple Burner, Macintosh: Hi-MD Music Transfe for Mac)	
⚠901	1-479-577-21	ADAPTOR, AC (AC-S508U) (US, CND)	
⚠901	1-479-577-31	ADAPTOR, AC (AC-S508U) (AEP)	
⚠902	1-823-935-61	CORD, AC POWER (for AC ADAPTOR) (AEP)	
⚠902	1-824-910-41	CORD, POWER (for AC ADAPTOR) (AEP)	
⚠902	1-829-810-31	CORD, POWER (for AC ADAPTOR) (US, CND)	
903	1-830-472-12	CORD, CONNECTION (USB) (USB CABLE)	
904	1-479-595-21	REMOTE COMMANDER (RM-MC38EL)	
905	8-912-742-91	EARPHONES (MDR-E0931SPB9 SET) (AEP)	
905	8-912-743-90	EARPHONES (MDR-E808SPB19 SET)	(US, CND)
906	1-756-425-21	BATTERY, STORAGE, LITHIUM (LIP-4WM)	(US, CND)
906	1-756-425-31	BATTERY, STORAGE, LITHIUM (LIP-4WM)	(AEP)
907	X-2050-928-1	CASE ASSY, CHARGE	
908	1-400-877-11	FILTER, CLAMP (FERRITE CORE) (ESD-SR-110)	(for REMOTE COMMANDER)
909	1-400-878-11	FILTER, CLAMP (FERRITE CORE)	(for USB CABLE)



Note: For the installation position of ferrite core, see "POSITION OF FERRITE CORE)" (Page 11).

Note: IC1 and S8 on the OLED board can not be exchanged alone. When IC1 and S8 on the OLED board are damaged, exchange the complete OLED board.

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2006.04	New
1.1	2006.05	Change of Torque value (ENG-06003)